VOL. 1 JANUARY 1902 NO. 3

K.C.S. CURRENT EVENTS

ALONG THE LINE OF THE

K.C.S.
"STRAIGHT AS THE CROW FLIES"
TO THE GULF

KANSAS CITY SOUTHERN RY.

AN AGRICULTURAL AND INDUSTRIAL MAGAZINE.

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S. G. WARNER,
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TRAV. PASS & IMMIGRATION AGT

KANSAS CITY. MO.

CURRENT EVENTS

JANUARY 1, 1902

VOLUME ONE NUMBER THREE

CONTENTS:

WHEN THE FROST IS ON THE PUMPKIN.

(The most famous verses of Indiana's most famous poet,
JAMES WHITCOMB RILEY.)

When the frost is on the punkin and the fodder's in the shock,
And you hear the kyouck and gobble of the struttin' turkey-cock,
And the clackin' of the guineas, and the cluckin' of the hens,
And the rooster's hallylooyer as he tiptoes on the fence;
O! it's then's the times a feller is a feelin' at his best,
With the risin' sun to greet him from a night of gracious rest,
As he leaves the house, bare-headed, and goes out to feed the stock,
When the frost is on the punkin and the fodder's in the shock.

The husky, rusty rustle of the tossles of the corn,
And the raspin' of the tangled leaves, as golden as the morn;
The stubble in the furries—kind o' lonesome like, but still
A-preachin' sermuns to us of the barns they growed to fill;
The straw-stack in the meader, and the reaper in the
The hosses in theyr stalls below—the clover overhead!—
O! it sets my heart a-clickin' like the tickin' of a clock,
When the frost is on the punkin and the fodder's in the shock!

THE HOT SPRINGS OF ARKANSAS

NO health resort in the United States is better and more favorably known than the Hot Springs of Arkansas. These springs have had a reputation among the aborigines for ages on account of their curative properties, and early in the day became a favorite resort of the settlers west of the Mississippi. The reservation of the springs by the government as a National Park, and the easy access afforded by the most excellent transportation facilities, connecting Hot Springs with all centers of population in the United States, has caused this resort to be visited for pleasure and for health by hundreds of thousands in the last half century.

The government has built its army and navy hospital at Hot Springs, and has made many improvements in the building of drives, walks, and the preservation of the naturally beautiful landscape. The numerous hotels and bath houses are under the direct supervision of the government and a standard of excellency is required, that is seldom equalled in other resorts.

The combined opinion of the leading medical practitioners of Hot Springs, as to the ailments that can be benefitted and cured by the aid of the hot water is as follows:

"Generally speaking, all diseases of the skin, blood, digestive and secretory organs, and nervous affections and ailments peculiar to women. Many physicians assert positively that all known diseases except fevers and advanced lung troubles are cured or benefitted.

"Troubles that yield most readily to the hot water treatment: Alcoholism, catarrh, chronic inflammation of the bladder and urethra, chronic ulcers, eczema, gout, hysteria, indigestion, insomnia, kidney and liver troubles, malaria, nervous prostration, neuralgia, locomotor ataxia, paralysis, phthisis (early stages) psoriasis, rheumatism in all forms, scrofula, stomach diseases, tobacco poisoning, etc.

"Chronic rheumatism is cured here in from three to eight weeks on an average, though a cure has been known in ten days.

"The water of Hot Springs is superior to all others, either natural or prepared, as an aid in surgical treatment.

"Enlargement of the heart is cured, but the baths must be used with great care, and under a physician's guidance. Tuberculosis, except where the lungs are much involved, in many cases can be wholly eradicated.

The value of the hot waters as a general tonic is becoming more and more recognized each year. Those whom they benefit in this category are the overworked business and professional men and women, ladies overburdened with the duties of society or the household; politicians and men of the world who have been going the pace; cases that refuse to recuperate after the eradication of la grippe or any severe ailment; all find great benefit and quick recovery through these wonderful waters.

In his circular for the guidance of the officers of the army in sending the sick here, the Surgeon general of

the U. S. army at that time, Geo. M. Sternberg, enumerates the ailments for which the sick should be sent to the Army and Navy Hospital at the Hot Springs of Arkansas. This circular is approved by the Secretary of War. It says:

"Relief may be reasonably expected at the Hot Springs in the following conditions: In the various forms of gout and rheumatism, after the acute or inflammatory stage, neuralgia, especially when dependent upon gout rheumatism, metallic or malarial poisoning, paralysis not of organic origin; the earlier stages of locomotor ataxia; chronic Bright's disease (the early stages only), and other diseases of the urinary organs; functional diseases of the liver; gastric dyspepsia not of organic origin; chronic diarrhoea; catarrhal affections of the digestive and respiratory tracts; chronic skin diseases, especially the squamous varieties and chronic conditions due to malarial infection."

GEO. M. STERNBERG,
Surgeon General U. S. Army.

Approved:
R. A. ALGER,
Secretary of War.

The Hot Water, Baths and Bath Houses.

The average temperature of the water of the seventy-two Hot Springs of Arkansas is 135 deg. Fahrenheit; they discharge one million gallons per day. There are in all twenty-two bath houses, which pay the government for the privilege of using the water. The government fixes the prices of baths at all the different houses, and also the attendants' fees, and no more and no less than this price can be charged under the severe penalty of forfeiture of the licenses. The prices of baths at the different bath houses are graded according to their equipment and facilities and vary from $3.00 to $10.00 for a course of twenty-one baths. For a half course of ten baths the charge is one-half the full course rate. The price of attendance is three dollars for a course of twenty-one baths, but their employment is optional with the bather.

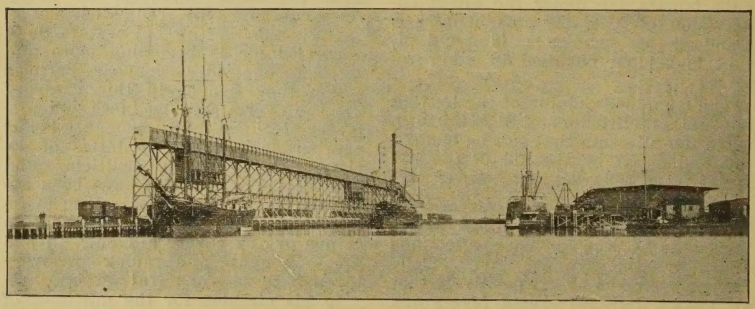
The Hotel Accommodations.

Are exceptionally good and ample. There are three hotels, each with a capacity of 500 persons or more. Their rates are from $3.00 to $8.00 per day. There are seven hotels with a capacity of 100 to 500 people; rates $2.00 to $3.00 per day; $8.00 to $17.50 per week. Fifteen hotels are arranged to house from fifty to 100 people each; rates $5.00 to $12.00 per week. Sixteen hotels have a capacity of twenty to fifty persons each; rates $5.00 to $10.00 per week.

Hospitals: St. Joseph's Infirmary, capacity seventy-five persons; Keeley Institute, capacity twenty-five persons, and the Ozark Sanitarium, capacity forty persons.

Special information can be had by addressing:

C. F. COOLEY,
Secretary Business Men's Club,
Hot Springs, Ark.



EXPORT PIERS AT PORT ARTHUR, TEXAS.

PEAR ORCHARD AT BEAUMONT, TEXAS.

A LEGEND OF TULAROSA

BY F. E. ROESLER.

The good people of Tularosa, a small town in Southern New Mexico, rarely get excited about anything, and it would be a difficult task for a strong man to raise a disturbance, but Pablo Chiquito accomplished it without any effort on his part.

The Bank of Tularosa is a famous institution. It is situated on the northwest corner of the block. On the opposite corners are great cottonwood trees, shading the whole street, which is crossed by an irrigating ditch. When it doesn't rain, and it seldom does, stock holders and depositors of the bank prefer to keep an eye on the cashier, and so the major part of the business community hold down a bench under the trees in the morning, or tilt up their chairs against an adobe wall opposite the bank in the evening. They form a picturesque array of home talent, on display daily between the hours of 7 a. m. and 8 p. m.

Pablo's mother had sent him to the tienda to invest a nickle in cabbage. Like all other youngsters he was anxious to get away from maternal restraint and reached the store in a short time. Half a cabbage with the root attached was all he got for his nickle. The root made a fine handle, and with the head swinging to and fro, he started for home. He was in no particular hurry. If the family didn't have cabbage for dinner to-day, they could have it manana. After many stops to talk with other boys he finally reached the bank corner. The cashier, in his white apron, needed his undivided attention for a time, and then the water in the ditch cooled his brown feet. After awhile he leaned up against the big cottonwood tree and lost himself in deep meditation, while his mother waited for that cabbage. Evil begets evil, and had Pablo attended strictly to business, a serious disturbance of the peace and quiet of Tularosa might have been avoided.

Behind the bank is a livery stable, which carries, besides the horses and mules, several free boarders, among them a billy goat and a ram. Mr. Billy had gotten his fill of alfalfa and was in search of tin cans with new labels, when he discovered a cabbage with a muchacho attached thereto near the big cottonwood tree. The boy was unwashed and not appetising, his straw hat and shirt waist might possibly round out a meal, but cabbage was better than either. He accordingly fastened himself to it with a good will, and as Pablo declined to let go, he secured a good mouthful. Pablo's wrath arose at this desecration of the family's dinner, and he viciously stubbed his toe against Billy's tough hide. Compliments were immediately returned and he fell against the tilted chair of one of the local patriarchs.. Both went down and when they arose, Pablo had his ears boxed and went home. A few minutes later the wind wafted a wail down the street, and some of the stock holders of the bank inferred that Pablo was accounting to his mother for the loss of the cabbage.

Billy had settled down to a quiet discussion of the causus belli, when there darted across the street a streak of wooly white, and a goat rolled over and over until he landed among the chairs under the cottonwood. The stockholders, etc., began to take some interest in the proceedings and bets, payable at the bank; were soon laid as to which would be the last possessor of Pablo's cabbage.

To all appearances Billy had lost interest in the cabbage. He smelled at two or three tin cans and at a trouser leg or two, while the

ram was revelling in what he considered a good thing. Gonzales' dog had sidled up to the ram to ascertain what he was having for dinner, and from nowhere in particular came a spruce young man on his bike. He had just gotten in line with the dog and the ram, when something happened. What it was, the oldest inhabitant cannot lucidly explain, but according to the confused account, it was a mixture of dog, bicycle, store clothes, ram and goat which was past intelligent description. The cashier, however, scored one for the goat, which, securing the cabbage walked deliberately into an adjoining orchard. The ram after a time seemed to be missing something and went in search of it. The stockholders, etc., were now nursing their thirst under the apple trees, waiting for the end of the campaign, and it came soon enough.

Billy kept an eye open for the ram while munching the cabbage, and when the latter rushed at him like a cyclone, he wasn't there. He had jumped on a bench near by and overturned three bee hives. He concluded that he didn't want any cabbage. The ram was evidently of the same opinion, for he overturned two respectable citizens in his haste to let it alone. The stockholders, etc., were suddenly overcome with the conviction that betting was sinful and bolted away from the scene of their iniquity at a frightful speed, not even stopping for breath at the bank. The quickest of the lot was a rheumatic ex-editor. Sundry dogs and burros in the vicinity gave vent to their feelings in loud lamentations, and all things considered, it was "A hot time in the old town" that afternoon. According to the oldest resident more enthusiasm was manifested on this occasion than on any other he can remember.

At the next meeting of the directors, stockholders and depositors of the aforesaid bank, held under the big cottonwood tree, it was resolved, that Pablo Chiquito should never be elected Mayor of Tularosa, even if he lived a thousand years.

THE OIL INDUSTRY TO BEAUMONT, TEXAS.

On October 15th, 1901, the firm of Nelson & White of Beaumont issued the following oil report:

The developments in this field are, today, about as follows:

Number of wells drilled in this county since the bringing in of Lucas gusher	175
Producing wells	70
Abandoned holes	24
Rigs now in operation, wells not brought in	51

Conservative estimate of capacity of producing wells 1,500,000 barrels. Total shipments of oil to date, approximately 820,000 barrels.

Oil now in storage by the various companies, approximately 725,000 barrels.

Mileage of pipe line completed: 8-inch 22 miles; 6-inch 62 miles; 5-inch 28 miles; 4-inch 17 miles; total 129 miles.

Pipe line now under construction, 10-inch 14 miles; 6-inch 6 miles.

Capacity of tankage now under construction, 1,147,000 barrels. Not including proposed tankage or that to be constructed in the future.

List of oil companies now disposing of oil: Higgins Oil & Fuel Co., National Oil and Pipe Line Co., J. M. Guffey Petroleum Co., Heywood Oil Co., Buffalo Oil Co., Palestine-Beaumont Oil Co., Citizens Consolidated Oil Co., Manhattan Oil Co., Ground Floor Oil Co., Alamo Oil Co., Yellow Pine Oil Co., and Columbus Oil Co.

The facilities for the transportation of oil are rapidly improving. The Guffey Petroleum Company have installed a large distilling plant and refinery at Port Arthur and the Central Asphalt Company are erecting a large plant in the same city. Both plants will consume large quantities of oil.

Since the above estimate was compiled, the number of flowing wells has reached a total of 129. The daily shipment of oil by rail averages 125 car loads. Vast quantities are also exported by water.

Shreveport and North Louisiana.

On Sunday, September 29, the Shreveport Times treated its readers to a very handsome and interesting 24-page trade edition. It was intended to be a mirror of the prosperity of North Louisiana, and of Shreveport in particular, and it ably fills the bill. It contains pictorial views and descriptive letter press of the principal cities of North Louisiana, such as Alexandria, Monroe, Minden, Mansfield, Benton and Ruston. Of course, a large space was devoted to the industries and improvements of Shreveport itself. It is worth while to note the following statements made concerning this city of Louisiana, second in importance only to New Orleans. They are:

Passenger Station of Kansas City Southern Ry., Shreveport, La.

It has a population of 25,000 souls.

Its bank clearances during the past fiscal year exceeded $300,000,000.

It handled in 1900-1901, 14,000 car loads of merchandise.

Eight trunk lines enter the city and give it superior distributing facilities.

Twenty-eight passenger trains enter the city and depart from it daily.

It has four cotton compresses, one of which is the largest in the world.

It has a $100,000 cotton mill and six large brick plants.

Three cotton oil mills are located here and five banks transact its financial business.

It is in the geographical center of the largest pine district in the world.

It is the third interior cotton center in the world, with a maximum of actual receipts reaching 312,000 bales.

It is the largest wholesale grocery market in the southwest.

It is the head of the all-year-round navigation of the Red river.

It has ninety-five manufacturing enterprises, which pay over one million dollars annually to labor.

It has a magnificent central high school and has recently voted $70,000 for new schools.

It is equipped with electric street cars and the other essentials of municipal life.

Among its public buildings are a magnificent courthouse and a handsome postoffice building.

It recently voted $60,000 for the construction of a new parish jail building.

The United States census of 1900 credits Shreveport with 16,013 inhabitants.

HAULING APPLES TO THE EVAPORATOR, SILOAM SPRINGS, ARK.

IRRIGATION OF THE ORCHARD AND GARDEN.

The average farmer in any of the states of the Mississippi Valley or of the Atlantic states will tell us very quickly that he needs no irrigation to raise a crop, yet all of them will readily concede that they get a larger and better crop when it rains enough than when it does too little. The philosophy of agriculture as generally understood, is the promotion of the crop and the removal of all obstacles that may be in the way of a vigorous growth, in short to do everything that is necessary to give the crop the advantage in the general struggle for existence. If all these things are properly done, a full crop should be obtained every year, barring the possibility of loss through hail storms, early or late frosts or floods. Drouth, as a factor in crop failures, can to a great degree be overcome.

Now, what is a full crop? According to Mississippi Valley estimates, 40 bushels of wheat to the acre are a full crop. In biblical times wheat yielded a hundred fold in Egypt. The yield in the United States on the average is only twelve fold, reckoning one bushel of seed to the acre, yet eighty bushels have been grown to the acre in Utah, Colorado and New Mexico, 113 bushels near Helena in Montana and 60 to 65 bushels in the irrigated parts of Texas. The average yield of potatoes in the United States is 72.2 bushels, but in the State of Colorado 1000 bushels have been obtained. Onions yield from 100 bushels to 1000 bushels and oats range from 20 bushels to 120 bushels. With such tremendous differences in the yield of the same product, it is evident that something can be done to get nearer to the larger quantity. That the farmer gets the smaller quantity is largely his own fault.

First he removed all the timber, thereby removing the natural humidity, changing the climate from a humid one into one alternating between excessive rainfall and excessive dryness. Since the land was first broken, to this day, the rains have fallen on it and in each year have carried off many tons of the richest natural fertilizers to the various creeks and rivers, the obliging farmer plowing after every rain to furnish more fertilizer for the next. This waste is never stopped or repaired, and as a natural consequence the land becomes poorer each year. Eventually it becomes so impoverished that the value of the crop

is almost equal to the value of the artificial fertilizers which are spread on the land.

Now the application of irrigation to a field operates in two distinct ways: The plant is unable to assimilate any food whatever, except through the water in which it is dissolved. In time of drouth the plant simply starves because there is not sufficient water to dissolve and take up the plant food it requires. Observations made at Rothampstead in England and in other places have determined beyond all question, that in order to produce one pound of grain (wheat) and two pounds of straw, 2000 pounds of water must be absorbed and evaporated by the plants. This would require 235 1-3 gallons of water to produce one single pound of grain and 14.120 gallons, or more than enough to cover one acre one half inch deep with water, to produce one bushel of wheat and one hundred and twenty pounds of straw. If the supply of water is insufficient to dissolve the necessary plant food, there is a loss in the yield in the proportion to the plant food in solution in water denied.

The other operation of irrigation on the crop is the incident enrichment of the soil which is irrigated. The rain itself carries little or no fertilizing elements with it; it is simply a solvent of plant food and nothing more. During its precipitation it is more likely to carry off fertilizing elements, than to add to the strenght of the soil. The water from brooks, streams, rivers, ponds or springs, is rain water which has passed over or through the soil and holds in solution or suspense greater or lesser quantities, which commonly are allowed to go to waste.

The water from a moderately turbid stream will contain about 175 grains of solid matter to the gallon. Mr. T. H. Bomar. Civil Engineer estimates as to the fertilizing capacity of the water of the Pecos River as follows: "As a water right from an irrigation canal in this valley is equivalent to 40 inches rainfall per annum, equal to 1,089,000 gallons of water for each acre every year, the total amount deposited on each acre in one years irrigation will be over thirteen tons. As this solid matter is composed of valuable plant food, principally of lime, gypsum and humus, its great value as a fertilizer can be readily seen and its commercial value calculated."

"A ton of compost with these ingredients as a base, would be dirt cheap at ten dollars, but the irrigation companies give the thirteen tons each year free of cost in the delivery of the water for irrigation. This natural fertilizer is applied a thusand times easier, and is more readily assimilated than the manures and artificial fertilizers on the farms in the Eastern States.",

What is true of the Pecos water, holds good with any other stream in the United States. Most of them will bear a richer silt because they rob the highly cultivated farms of the best in their surface soil, while, as yet, the Pecos flows through a virgin soil, in an arid country, with scant vegetation and very little cultivated land.

The secret of success with the irrigator is that he leaves nothing to chance. By giving water when the plants need it, he secures and maintains a vigorous growth, and a vigorous plant will have numerous and vigorous offspring as is shown in the yield from irrigated lands. In an irrigated country the oldest farm is the richest, and brings the highest price while where irrigation is not applied, the older the farm the less its value.

Taking eighty bushels as the largest crop of wheat that can be grown in the United States, it is evident that the farmer who gets only ten bushels to the acre, is getting only one eighth of a full crop. As he is not likely to get more than 75 cents a bushel for his wheat, and it costs him at least $6.00 per acre to raise it, it is evident that he is working on a very small margin of profit and often gets less for his crop than its cost of production.

The writer fully understands that the great majority of farms are so situated that they cannot be readily irrigated, but he does contend that on very many farms some land can be profitably irrigated. It may be only an acre or two, but it pays to irrigate even these. The thousands of truck-farms and the numerous berry patches, vineyards and orchards are all in need of irrigation and there is not one in the whole country which would not have yielded greater crops and greater profits, if a little water could have been supplied at the right time.

To advise how this can be done, will require a seperate descriptive article to be published later on. A common vineyard will with wind mill, or small gasoline engine, an artesian well, an above ground tank on the highest part of the farm, a dam thrown across a small ravine, guide furrows from a

higher lying water shed to a natural basin, a neighborhood canal taken from some running stream or a spring put to practical use, with the application of a little common sense, will vastly improve the productive capacity of any farm on which the facilities for irrigation may be controlled. The cost of the plant will be small compared with the results obtained. There are very few farms, truck gardens or orchards in which water could not be impounded in earthen tanks or reservoirs and be supplied from the ordinary rainfall, which could be augmented by a gasoline engine, pump and wells. In a truck patch or berry patch one or two irrigations would be about all that would be needed in ordinary years. Untold millions of dollars are swept annually into the Atlantic Ocean and the Gulf of Mexico, while other millions are expended for fertilizers. In time of drouth let the farmer supplicate for sense enough to use the water flowing past his door, instead of asking for more rain and he will be heard.

HARVESTING APPLES AT SILOAM SPRINGS, ARK.

TIDINGS FROM THE APPLE ORCHARDS.

The Big Red Apple Country covers a large part of Missouri and Arkansas, in fact, covers the whole range of territory occupied by the Ozark Mountains and their foothills That part of it lying along the line of the Kansas City Southern Railway, extending from near Neosho, Mo., to DeQueen, Ark., covers a distance of about 260 miles. While immense crops of grain, corn, cotton, and great numbers of horses, cattle, sheep and hogs are produced, and fine crops of peaches, berries and commercial truck find their way to market, it is the Big Red Apple, which is the biggest money maker of them all. The fruit statistics for 1901 are not yet accurately compiled, but the data given below, and extracted from the local newspapers, will give some idea of the magnitude of the apple production in this region:

Richards, Mo.

J. C. Roller, of La Harpe, Ill., who last spring purchased the old Benedict orchard, and I. M. Oakman, of the same place, are buying up all the orchards they can find, offering liberal prices. Besides the eighty acres belonging to Mr. Roller, they have bought the Benedict orchard of 120 acres, and the Dr. Todd orchard of thirty-five acres. Recently J. T. Wilson, of McComb, Ill., purchased a carload from them and, with Mr. Oakman, bought the L. W. Peters and smaller orchards. The greater part of these apples will be shipped to Illinois.

—Progress.

Amsterdam, Mo.

Henry Francis was in town Tuesday and reports that he will have some 2,000 barrels of apples for export.

Anderson, Mo.

The evaporators will probably close down at the end of this week. The firm has had a very successful run,

having consumed 3,000 bushels of apples and turned out 5,000 pounds of dried fruit. In addition to the large quantity of apples handled at the evaporator the company bought and shipped fifteen carloads, about 10,500 bushels. —Times.

Joplin, Mo.

Jasper County is "some pumpkins" when it comes to apples, says the Carthage Press. The crop is now three-fourths gathered and a well known local buyer estimates the county's crop at a quarter of a million dollars. —News.

Goodman, Mo.

The apple shipments from this point amount to twenty carloads from five year old trees; of peaches, twelve carloads were shipped from trees three and four years old. Gentry, Ark., has shipped 200 carloads of apples; Decatur, 100; Gravett, Ark., 160 and Westville, I. T., 150 carloads.

Pittsburg, Kas.

B. B. Jordan, who owns a big fruit farm in Osage Township, near McCune, is advertising in the Headlight for fifty men to help him pick apples. Mr. Jordan says that the apple crop this year is better than last year. It is estimated that 75,000 bushels of apples will be gathered from Mr. Jordan's orchards this fall.

Westville, I. T.

Almost twenty carloads of apples are being shipped from this point this week. Last week the shipments were eighteen cars and the season will continue until November. The largest price has been paid which has ever prevailed here; $2.10 per barrel and it takes only a thought to determine the thousands and ten thousands of dollars that will be brought into this country from the apple crop alone. —Wigwam.

Siloam Springs, Ark.

Wm. Leach, one of the most successful fruit growers in the county, was in the city yesterday. Mr. Leach has thirty acres of orchard and made a pile of money out of it this year. —Herald.

It is estimated that the proceeds of the fruit crop in this (Benton) county this year will amount to the neat little sum of $2,000,000. The apple shipments from this point alone will not be less than 300 carloads. The Herald of Siloam Springs estimates that there will be over 200,000 bushels of apples dried at the different evaporators at this place this fall.

The enterprising merchants of Siloam Springs are enjoying a golden harvest this fall as a result of the large apple crop which is being sold at a good price. Everybody that wants to work is receiving the highest wages ever paid in this section, which makes money plentiful. Great is the Ozark Apple Orchard. The Benton County farmers are beginning to realize that there is more money in fruit than in raising wheat and corn, and as a consequence a large acreage will be set in apple and peach trees this coming fall and spring. —Democrat.

We understand that R. S. Morris, of Siloam Springs, has sold $8,000 worth of apples from an orchard of 80 acres. This is $100 per acre. Besides, he has the evaporated fruit from the culls, which possibly is worth $1,000 more. —Herald.

The East Side is fairly covered with evaporators this fall and it is a sight to see the army of men, women, boys and girls employed by them going to and from their work. The apple crop is immense. While barrel after barrel of shippers are being loaded on the cars daily, wagons loaded to their utmost capacity with culls are being brought in from the orchards to be dumped for evaporating purposes, and a scene of thrift and industry greets one at every turn. —Democrat.

Good reliable information leads us to believe that apples out of cold storage next winter and spring will be worth $5.00 and $6.00 a barrel in Siloam Springs. —Herald.

At present there are more people employed in Siloam Springs at better wages than ever before. —Herald.

The following is a true account of the 1901 yield of apples from the orchard of Mr. W. H. Davey, of twenty-five acres. There were 950 barrels of good picked apples and 1,500 bushels of culls. This makes an average of forty barrels good and sixty bushels culls to the acre. The barrels are worth at market price now $2.00 and the culls sold at fifteen cents a bushel which makes a value of $90 per acre for the entire orchard.

W. H. Eisele brought some fine peaches to town yesterday that were not only large and highly colored, but possessed the most delicious flavor. He has two varieties of October peaches, the Salway and the Bonanza, the former a red peach resembling Crawford's Early, and the latter a white peach. Mr. Eisele says he expects to eat peaches and cream on November 1st.

Charley Lee, who lives three miles southeast of the city, netted $2,400 on his forty acre fruit farm during the last year, and he has twenty acres of strawberries in fine condition that will be worth $2,000 to him next spring. —Herald.

Bentonville, Ark.

The Bentonville Ice and Cold Stor-

age Co. has begun operations and has already stored over 12,000 barrels of apples and has the space for 5,000 barrels more engaged. The storage cost is fifty cents per barrel and it is expected that all the space will be engaged. The company also runs a large cooperage shop and is prepared to furnish barrels as needed. The capacity of the cold storage building is 20,000 barrels. The plant was erected at a cost of $30,000.

Springdale, Ark.

The News has talked with a number of dealers about the probable number of apple cars that will be shipped this season and all unite in saying that it will not be less than 500, while some place the number at 700. If the talk that is heard amounts to anything, there will be a cold storage and ice plant in Springdale before another apple season rolls 'round. The canning factory is now working on apples and is paying forty cents per bushel. These are being packed in three pound cans. There are about forty people at work in the factory.

Rogers, Ark.

The total shipments of apples from Rogers up to October 2 are 112 cars of green apples and 12 cars of evaporated apples; some thirty car loads are in cold storage. A carload of evaporated apples represents 25,000 pounds. So the evaporated fruit shipment from Rogers up to date is 675,000 pounds. On the average one bushel of apples will make six pounds evaporated, so the above represents 112,000 bushels or 224 carloads. H. Y. King had at the beginning of this week, made 10,000 gallons of cider. Mr. King estimates that 4,000 bushels of apples were required to produce this cider. The coopers are making good wages nowadays, though the employment lasts only a few months in the year. They average from 50 to eighty barrels per day and some of the fastest will complete 100 barrels. This mould mean $6.00 per day. The Rogers Barrel Works turn out 1,500 barrels per day.

Fayetteville, Ark.

The dried fruit business in Fayetteville is a wonder within itself. The McIlroy Co. will get out five carloads this week and other firms buying here are doing an immense business.

—Republican.

Gentry, Ark.

Station Agent Brickel informs us that apples are coming in now at the rate of eight carloads per day. G. M. Brogdon says that the apple shipments from this point will amount to at least 200 car loads. Mr. Brogdon is in the apple shipping business and is well posted as to the size of the crop. We think 200 carloads a conservative estimate. Up to November first, 157 cars have been shipped from this place.

—Journal.

Fort Smith, Ark.

This year's crop of Arkansas apples is one of the biggest in the history of the state, and the hauling of the fruit strains the capacity of the railroads to provide cars for shipment. The fruit is sent to every point of the compass, into nearly every state in the Union. Shipments are received here daily consigned to New York, Boston, Philadelphia, St. Paul and for Spokane, Washington. Texas also receives a large part of the fruit. The situation is one unprecedented here and gives out an idea of the immensity of the state apple production.

—Times.

Mena, Ark.

Legate & Foster are busy these days shipping Polk County apples to southern markets. They buy the apples in the orchards and pick and pack themselves, getting their barrels to ship in from Kansas City. J. E. Watkins, an energetic young farmer living five miles east of here, came to town today, leaving a sample of Polk County's fruit that is simply wonderful. On a twig twenty inches long were clustering nine Ben Davis apples, each averaging ten and one-half inches in circumference and twelve ounces in weight, making a total of nearly seven pounds on the twenty inch twig.

—Star.

Apple shipments up to October 1st: Twenty-six cars; from 1st to 7th twenty-five cars; from 7th to 16th, twenty-four cars; total, seventy-five cars. The shipment for the next two weeks will perhaps be twice as much as those in the past fortnight. It is claimed by those best posted that the total shipments this year will amount to 200 carloads or more.

—Star.

Cove, Ark.

The apples this year, as grown here, are very fine, and Messrs. Legate and Foster are now buying and packing a carload for shipment from this station, the first carload ever shipped from this point. This shipment is causing the people to become more encouraged along the line of apple growing and they will plant more and larger orchards.

De Queen, Ark.

From three trees at Harrison were gathered fifteen barrels of good apples and fourteen bushels of culls.

—Gazette.

The Jacksonian says a peach tree at Heber that grew seven bushels of peaches this season is maturing a second crop.

PACKING PEACHES IN JNO. P. LOGAN'S SHED, SILOAM SPRINGS, ARK.

THE LUMBER INDUSTRY OF ARKANSAS, TEAXS AND LOUISIANA.

It is estimated that the United States produced about twenty billion feet of lumber last year (1900), to which Missouri, Minnesota, Arkansas and Louisiana contributed 5,135,000,000 feet, valued at fifty-one million dollars, or over twenty-five per cent of the country's total production. As the production in the world was only sixty-five billion feet, it will be seen that these four states furnished one-thirteenth of the world's lumber supply. Minnesota leads with a production of two and one-half billion feet, of which two billion were entirely white pine. Arkansas ranks next with a production of 800,000,000 feet of yellow pine and 350,000,000 feet of hard woods, such as oak, gum, cypress, hickory, etc. Louisiana yielded 550 million feet of yellow pine, 275 million feet of cypress and 125 million feet of other hardwoods. Missouri furnished 285 million feet of yellow pine and 150 million feet of various other woods. In the production of small timbers, staves, cooperage supplies and railroad ties, Missouri leads all other states in the Union.

As to the quantity of timber still remaining uncut it is estimated that in 1899 there were in Mississippi and Louisiana 40,000 million feet of Long Leaf pine, and in Texas perhaps half as much more. In Arkansas and Missouri there are perhaps 30,000 million feet of Short Leaf pine, making a total of 90,000 million feet of pine timber still standing in the five states mentioned. The average annual production of white pine and hemlock in the northwestern states during the past ten years has been about 8,000 million feet, and of yellow pine in the southern timber region, something like 3,000 million feet.

The timber wealth of the yellow pine forests has given rise to industries which involve the outlay of large sums of capital and the extensive employment of labor. Were the supply of white pine and hemlock inexhaustable and were it more generally distributed than it is, the fact would have very little influence on the manufacture and traffic in yellow pine lumber. Owing to its excellent qualities, its use in the various mechanical industries is as extensive as it is manifold. Its greatest value is in its adaptation to heavy construction; in naval architecture, for masts and spars; in the construction of buildings, bridges, viaducts and truss work. In the building of railroad cars, where great

LOG BOOM AT BEAUMONT, TEXAS.

strength and elasticity are required, the long leaf pine is preferred to any other. Immense quantities are cut every year for cross ties. The comparative strength of timbers, as tested by the American Association of Superintendents of Bridges and buildings, is as follows: Tension: white oak, 10,000; white pine, 7,000; Southern Long Leaf pine 12,000. Compression—White oak, 7,000; white pine, 5,500; Southern Long Leaf yellow pine, 8,000; these are the average ultimate breaking stresses in pounds per square inch. The two kinds of yellow pine, the long and the short leaf, can be used for all kinds of building purposes and replace oak and hickory in many uses.

The Kansas City Southern Railway passes through 460 miles of country from which yellow pine lumber can be secured. Of this mileage about 300 miles pass through short leaf and 160 miles through long leaf pine. There are in all, on the line, 126 establishments for the manufacture of lumber and of these 96 handle pine lumber exclusively; 14 manufacture oak lumber and other hardwoods; six make shingles; two make barrel staves and seven turn out telegraph poles, railroad ties, mining timber, and bridge ties. One of these ships monthly 500,000 feet of oak lumber and 100,000 ties. The daily capacity of the saw mills is 5,741,600 feet of lumber, of which 5,127,100 feet is pine lumber, 151,500 feet is oak and hardwood lumber, 242,000 feet is shingles, and 210,000 feet is miscellaneous material consisting of mining timber, railroad ties, cedar posts, cooperage stock, etc. The transport of this lumber requires from 1,000 to 1,200 cars per week, say in round numbers, 60,000 cars per year, which if they could be hauled at one time would make a train 454½ miles long.

Kansas City, Mo., is the second largest lumber market in the United States. The sales of yellow pine lumber alone amounts to over 650 million feet including everything from door casings to the heaviest bridge pilings. In addition to this about 150 million feet of hardwood lumber find annually a ready sale in Kansas City. The yellow pine handled in that city comes principally from Arkansas, Texas and Louisana and is brought in by the Kansas City, Southern Railway. The hardwoods used in the manufacture of furniture and for a multitude of other purposes come principally from western Missouri and Arkansas.

In Kansas City, Missouri, Fort Smith, Arkansas, Texarkana, Texas are a number of furniture factories which consume considerable quantities of hardwoods.

The fruit growing industry is immense, and of necessity large cooperage plants are operated in connection with it. There is also a very extensive and increasing demand for strawberry crates, baskets and boxes, which is supplied from the local lumber resources.

MANUFACTURERS OF YELLOW PINE LUMBER ON LINE OF K. C. SOUTHERN RAILWAY

	Daily Capacity. Feet
Allene Lumber Co., Allene, Ark.	12,000
Dean Mills Co., De Queen, Ark.	25,000
Avon Lumber Co., De Queen, Ark.	25 000
Beaumont Lumber Co., Beaumont, Tex.	140.000
Texas Tram & Lumber Co., Beaumont, Tex.	140.000
Reliance Lumber Co., Beaumont, Tex.	100.000
Sebastian & Matthews, Benson, La.	10.000
King-Ryder Lumber Co., De Ridder, La.	120.000
Astoria Lumber Co., Shreveport, La.	50 000
King-Ryder Lumber Co., Horatio, Ark.	50.000
Lockwood & Ross, Cooper, La.	70.000
Ellis Short Lumber Co., Cove, Ark.	30.000
Dierks Lumber Co, De Queen, Ark.	75,000
B. W. Zackery, De Queen, Ark.	20,000
Wetmore & Nichols, De Queen, Ark.	10,000
L. M. Dunn, De Queen, Ark.	20.000
De Soto Lumber Co., Frierson, La.	25.000
La. Long Leaf Lumber Co., Fisher, La.	150.000
Baxter Lumber Co., Fisher, La.	20,000
J. H. Williamson & Son, Florien, La.	20.000
A. H. Gray & Co. Florien, Ark.	20.000
N. A. Ayers Lumber Co., Florien, La.	20.000

	Daily Capacity. Feet.
Black Bayou Lumber Co. Myrtis, La.	40.000
Foreman Lumber Co, Gans, I. T.	15.000
Ellis Short Lumber Co., Granniss, Ark	30.000
I. A. Dye Lumber Co., Hatfield, Ark.	50.000
A. D. Moon Lumber Co., Horatio, Ark.	20.000
Horatio Shingle Co., Hornbeck, La.	30.000
Hornbeck Lumber Co., Hudson, Ark.	120.000
Hudson River Lumber Co., Hawthorne, La.	30.000
Hymers's Mills, Janssen, Ark.	40,000
Janssen Lumber Co., Janssen, Ark.	75.000
S. E. Smith, Gillham, Ark.	20.000
Bradley-Ramsey Lumber Co., Lake Charles, La.	140.000
J. A. Bell Lumber Co., Lake Charles, La.	60,000
Drew & Powell, Lake Charles, La.	30,000
Lake City Lumber Co., Lake Charles, La.	40.000
Leesville Lumber Co., Leesville, La.	25.000
Nona Mills Co., Lt ., Leesville, La.	125.000
Bowman-Hicks Lumber Co., Loring, La.	100 000
Mena Lumber Co., Mena, Ark.	60.000
Leidigh & Havens, Mena, Ark.	100.000
Brommer Lumber Co., Mena, Ark.	60.000

SAW MILL AT BEAUMONT, TEXAS.

	FEET.
W. S. Pryor, Mena, Ark.	20,000
C. M. Kinney, Gillham, Ark.	30,000
Black Bayou Lumber Co., Myrtis, La.	60,000
Mammoth Pine Lumber Co., Horatio, Ark.	40,000
Little River Valley Co., Neal Springs, Ark.	40,000
Central Coal & Coke Co., Kansas City, Mo. mills at Neame, La., and Texarkana; Tex.	375,000
Neosho Planing Mill Co., Neosho, Mo.	40,000
R. L Trigg Lumber Co., Noble, La.	75,000
Holton Lumber Co, Orange, La.	35,000
W. R. Pickering Lumber Co., Kansas City, Mo.	150,000
Plymouth Lumber Co. Zwolle La.	45,000
A. J. Kizer, Rankin, Ark.	50,000
Wm. McCoy, Rodessa, Ark.	75,000
Rose Pine Lumber Co. (Ltd), Rose Pine, La	30,000
W. W. Croft, Rose Pine, La.	10,000
Lewis & Williams, Rose Pine, La.	6,000
Diamond Lumber Co., Rose Pine, La.	40,000
Sabine Tram Co., Beaumont, Tex.	100,000
Ellis Lumber Co., Gans, Ark.	35,000
Shreveport Lumber & Mfg. Co., Shreveport, La.	40,000
Allen & Curry, Shreveport, La.	75,000
Victoria Lumber Co. Shreveport, La.	75,000
H. H. Weaver, Singer, La.	40,000
Gate City Lumber Co., Texarkana, Tex	60,000
King-Ryder Lumber Co., Thomasville, I. T.	140,000
A. M. Solley, Vivian, La.	10,000
Pittsburg & Gulf Lumber Co., Vivian, La.	35,000
Paragon Lumber Co., Vivian, La.	30,000
H. M. Lewis, Vivian, La.	25,000
Locke, Moore & Co., West Lake, La.	75,000
Perkins & Miller Lumber Co., West Lake, La.	75,000
Norris Mills, West Lake, La.	60,000
L. H. Palmer & Son, Wickes, Ark.	12,000
King-Ryder Lumber Co., Winthrop, Ark.	40,000
Klondike Lumber Co., Winthrop, Ark	50,000
I. A. Dye Lumber Co., Womacks, Ark.	15,000
R. B. Zimmerman, Zimmerman, La.	60,000
H. J. Allen Lumber Co., Zwolle, La.	75,000
Zwolle Lumber Co., Zwolle, La.	30,000
Clyde Lumber Co., Zwolle, La	30,000
Ellis Short Lumber Co., Granniss, Ark.	30,000
Hatfield Lumber Co., Hatfield, Ark.	50,000
J. L. McCoy, Horatio, Ark.	20,000
Hornbeck Lumber Co., Hornbeck, La.	30,000
Hudson River Lumber Co., Hudson, Ark.	120,000
Hymer's Mill, Hawthorne, La.	30,000
Janssen Lumber Co., Janssen, Ark.	115,000
I. A. Dye Lumber Co., Janssen, Ark.	75,000
Poteau Lumber Co. Janssen, Ark.	120,000
Clyde Lumber Co., Clyde, La.	30,000
Pullman Lumber Co., Pullman, Ark.	50,000
FIRMS FURNISHING OAK LUMBER.	
S. H. Haley, Anderson, Mo.	10,000
M. V. Cornell, Anderson, Mo.	10,000
Sebastian & Matthews, Benson, La.	10,000
Newton & Forbes, De Queen, Ark.	30,000
A. H. Burd, De Queen, Ark.	15,000
Spears & Co, Ganz, I. T.	2,000
Foreman Lumber Co., Gans, I. T.	7,000
W. S. Case & Co., Splitlog, Mo.	2,000
McCully Bros., Splitlog, Mo.	2,000
Hudson River Lumber Co., Hudson Ark.	30,000
P. L. Cornell, Pineville, Mo.	3,500
Neosho Planing Mill Co., Neosho, Mo.	40,000
P. Cobb, Womacks Fork, Ark.	10,000
FIRMS MANUFACTURING STAVES AND COOPERAGE STOCK.	
Blank & Morton, Benson, La.	1,000
J. H. O'Neal & Son, De Queen, Ark.	10,000
MANUFACTURERS OF SHINGLES.	
Bartholomew Bros., Beaumont, Tex	45,000
J. L. McCoy, Horatio, Ark.	12,000
J. H. Poe, Lake Charles, La.	75,000
Torrans Mfg. Co., Jefferson, Tex.	50,000
Grant Shingle Mill, West Lake, La.	60,000
Horatio Shingle Co., Horatio, Ark.	12,000
MANUFACTURERS OF POLES, ARMS AND PINS.	
Texas Arm & Pin Co., Beaumont, Tex.	5,000
Texas Arm & Pin Co., Ruliff, Tex.	5,000
SHIPPERS OF TIES, PILING AND BRIDGE TIMBER.	
Hammond Signor Tie Co., Shreveport, La. 500,000 ft pr mo; 100,000 ties pr mo.	
SHIPPERS OF CEDAR POSTS, MINING TIMBERS AND CORD WOOD.	
H. Thrasher, Goodman, Mo.	
Ozark Orchard Co., Goodman, Mo.	
H. Stites, Goodman, Mo.	
J. L. Elliff, Anderson, Mo.	
A. D. Moon Lumber Co, Kansas City, Mo.	
Hatfield Lumber Co., Kansas City, Mo.	

FREE HOMESTEADS ON THE LINE OF THE KANSAS CITY SOUTHERN RAILWAY

IN MISSOURI.

The lands nearest the line of the Kansas City Southern Railway are in charge of the United States Government Land Office at Springfield, Mo., of which Mr. G. A. Raney, Springfield, Mo., is receiver The lands within this district comprise 244,217 acres and are located in the counties of Barry, Dallas, Laclede, Ozark, Stone, Texas, Wright, Christian, Douglas, McDonald, Pulaski, Taney and Webster. Most of the lands are remote from railway transportation. McDonald county is traversed by the Kansas City Southern Railway and has about 10,000 acres of government land still open for settlement or open to purchase.

Missouri is the only state containing government lands which are subject to cash entry. All of these lands can be purchased at $1.25 per acre, except such as were embraced in homestead entries and reverted to the government, these can only be secured by homestead entries. One person can acquire title to only 320 acres of government land. Homestead entries can only be made for 160 acres, but purchase may be made

of an additional 160 acres.

The lands still vacant are the following:

Township 23, Range 34, W. Sections 22, 24, and 25..... ....400 acres
Township 23, Range 33, W. Sections 4, 5, and 18..... ..160 acres
Township 21, Range 33, W. Sections 8, 12, 18, 28.... ....200 acres
Township 23, Range 32, W. Section 36 .. ..80 acres
Township 22, Range 32, W. Section 4, 10, 20, 36 ....440 acres
Township 21, Range, 32, W. Sections 1, 6, 22, 28, 34, 36.. .... 840 acres
Township 22, Range 31, W. Sections 2, 6, 8, 10, 12, 18; 20, 24, 26, 28, 30, 32, 36 ....2,800 acres
Township 21, Range 31, Sections 2, 4, 6, 24, 26, 30, 32 .. ..2,360 acres
Township 23, Range 30, Section 32, ...240 acres
Township 22, Range 30, Section 2, 6, 12, 14, 20, 30, 34, ... 1,000 acres
Township 21, Range 30, Sections 6, 8, 20, 30, 32, 36.....1,040 acres
Township 23, Range 29, Sections 6, 18, 22, 30, 32.... ....520 acres
Township 21, Range 29, W. Sections 4, 8, 22, 28 .... 400 acres

IN ARKANSAS.

Some of the lands in charge of the U. S. land office at Harrison, Ark., Mr. F. S. Baker, receiver, are situated in counties traversed by or very convenient to the Kansas City Southern Railway. Within this district are located 1,149,853 acres, situate in Johnson, Baxter, Boone, Carroll, Franklin, Fulton, Independence, Izard, Madison, Marion, Newton, Searcy, Stone, Van Buren, Washington and Crawford counties. The railway traverses Benton County, Ark., in which there are open for settlement 40,020 acres, and is within easy reach of Crawford County, with 800 acres, and Washington County with 28,270 acres, subject to settlement under the United States Homestead Laws. Much of the land in this district is hilly but very fertile, and much of it is remote from railway transportation.

In the U. S. Land District of Camden, Ark., Mr. E. A. Shicker, receiver, there are 784,374 acres still open for settlement. These lands are situated in Ashley, Calhoun, Cleveland, Dallas, Garland, Hot Springs, Lafayette, Miller, Nevada, Pike, Saline, Sevier, Bradley, Clark, Columbia, Drew, Hempstead, Howard, Little River, Montgomery, Ouachita, Polk, Scott and Union counties, some quite distant from railway transportation and others quite convenient thereto. The vacant lands in the counties on or near the Kansas City Southern Railway are the following:

Polk County—Range 32, township 1, 9,304 acres; township 2, 4,715 acres; township 3, 204 acres; township 4, 80 acres; township 5, 4,134 acres; township 6, 5,370 acres. Range 31, township 1, 13,375 acres; township 2, 1,426 acres; township 3, 4,233 acres; township 4, 3,587 acres; township 5, 3,500 acres; township 6, 1,091 acres. Range 30, township 1, 7,438 acres; township 2, 122 acres; township 3, 15,987 acres; township 4, 17,936 acres.

Sevier County—Range 32, township 7, 5,149 acres; township 8, 639 acres; township 9, 120 acres; township 10, 80 acres. Range 31, township 7, 2,273 acres; township 8, 641 acres; township 9, 247 acres; township 10, 231 acres. Range 30, township 7, 6,976 acres; township 8, 1,316 acres; township 9, 520 acres; township 10, 120 acres.

Howard County—Range 30, township 5, 14,920 acres; township 6, 7,038 acres; township 7, 6,976 acres; township 8, 1,316 acres. Range 29, township 5, 9,455 acres; township 6, 6,308 acres; township 7, 12,045 acres; township 8, 723 acres.

Little River County—Range 31, township 11, 127 acres. Range 30, township 11, 922 acres; township 12, 160 acres.

Miller County—Range 28, township 14, 40 acres; township 16, 320 acres; township 17, 79 acres; township 18, 1,920 acres; township 19, 40 acres; township 20, 120 acres. Range 27, township 14, 251 acres; township 15, 40 acres; township 16, 40 acres; township 17, 210 acres; township 18, 40 acres; township 20, 70 acres. Range 26, township 14, 130 acres; township 16, 40 acres; township 17, 200 acres; township 18, 40 acres; township 20, 438 acres.

Among the counties within twenty to thirty miles from the railroad having free homestead lands are Hempstead County with 2,450 acres; Montgomery County with 261,658 acres; Pike County with 75,688 acres and Lafayette County with 6,767 acres.

The greater proportion of these lands are fertile, and as new lines of communication are opened up, will prove very valuable. Every citizen of the United States, who is the head of the family or 21 years of age, is entitled to one entry of 160 acres under the homestead act. The leading provisions of such act are as follows:

A person desiring to enter a tract of land upon which he has not established a residence nor made improvements, must appear personally at the district land office and make his application before the register and receiver, after having seen the land.

He must then establish actual bona fide residence (in a house) upon the land within six months from date of entry, and must reside upon it continuously for five years.

The period of actual inhabitancy, improvement and cultivation required under the homestead law is five years.

In case of the death of a homestead settler, before making proof, the widow succeeds to the homestead right, but she must continue to cultivate the land until final proof is made and accepted. In case of the death of both father and mother, the right and fee inure to the minor children, if any.

A homestead right cannot be devised away from the widow and minor children.

GOVERNMENT LANDS IN LOUISIANA.

The unappropriated and unreserved acreage of public lands in Louisiana on July 1, 1900, amounted to 442,224 acres and is situated in most of the Parishes of Louisiana, excepting only ten Parishes in which there is no public land. The following mentioned lands are open to settlement in the

Natchitoches Land District:

Bossier Parish, 19,630 acres; Caddo Parish, 19,219 acres; De Soto Parish, 10,866 acres; Sabine Parish, 51,139 acres; Vernon Parish, 13,410 acres.

The lands in this district consist in the main of sandy and clay soils, changing into heavier black soils near the water courses. Most of the country is now or has been covered with fine pine timber.

New Orleans Land District.

Calcasieu Parish, 7,556 acres; Cameron Parish, 341 acres.

These Parishes are on and near the Gulf of Mexico and consist in the main of pine woods and fertile prairie lands suited excellently for growing rice and raising live stock. Some of the land in Cameron Parish is sea marsh to a limited extent.

TEXAS STATE SCHOOL AND ASYLUM LANDS.

When the Republic of Texas became a state in the Union, all the lands within the state were retained and remained property of the state. The U. S. government from time to time secured small holdings for its forts, but otherwise gained no title to any lands. A very large part of the land was by the state donated to its state school system, its universities and various other institutions, such as the Deaf and Dumb Asylum, Blind Asylum, etc. Nearly all these lands are situated in the extreme western part of the state. The few unsold tracts still remaining in eastern Texas are listed below.

They are generally sold at very low prices and very long credit terms unless they are covered with choice merchantable timber in which cases the state demands cash payment.

State School Lands in Cass County, Texas.

D. & S. E. Ry. Co.'s Surveys,640 acres; B. B. B. & C. R. R. Co.'s surveys, 160 acres; S. F. Iron Works surveys, 320 acres; W. H. H. Harvey surveys, 172 2-5 acres. Total,1,292 2-5 acres.

Information concerning these lands can be had by addressing J. G. King, County Clerk, Linden, Cass County, Texas.

State School Lands in Newton County, Texas.

The unsold school and asylum lands in Newton County amount to 8,864 acres. The number of acres of such land, upon which the timber has been sold, the state still holding the land, is 62,960 acres. The time allowed by virtue of the leases, for cutting this timber varies from five to seven years, and they do not all expire at the same dates. Mr. John M. Harger, County Clerk, Newton, Newton County, Texas, can give more information on the subject.

State School Lands in Bowie County, Texas.

Most of the state school lands in this county have been taken up. The lands still in market are mostly fractional sections. Mr. Frank A. King, County Clerk, Boston, Bowie County, Texas, can give information concerning the same.

State School Lands in Orange County, Texas.

Cert. No. 556, T. & N. O. R. R. surveys, 649 acres, value $5.00 per acre, cash; cert. No. 689, Lizzie Higginbotham surveys (part in conflict), value, $1.50 per acre, 40 years; cert. No. 464, R. M. Sanders surveys, timbered, value, $2.00 for land, $5.00 for timber; cert. No. 1,489, Mary Hall surveys, W½, 667 acres, water, grass, $1.00 per acre, 40 years; cert. No. 3,694, Sarah Luce surveys, E½, 640 acres, water, grass,$1.00 per acre, 40 years; cert. No. 341, Jno. S. Noris, 1,280 acres, water, grass, $1.00 per acre, 40 years.

Leased 200 acres to Geo. W. Adcock five years from December 19th, 1897.

Mr. N. Burton, County Clerk, Orange County, Texas, can advise further.

There are no unsold state school lands in Jefferson County, Texas.

INDUSTRIAL NOTES.

AMSTERDAM, MO.—Mr. Henry Frances, the "apple man," reports that his trees were "loaded" this year and that he had 2,000 barrels for export.

Mr. Ed. Dudley has established a "poultry house" here for the purpose of shipping dressed poultry to Kansas City.

Test borings for oil are being continuously made in this vicinity.

DREXEL, MO.—The big procession of milk wagons passing through town every morning shows that our farmers are taking a big interest in the creamery business.

MERWIN, MO.—The Merwin Oil and Gas Company have continued their work of prospecting steadily, and now have three wells which furnish oil and gas in ample abundance.

STOTESBURY, MO.—The John Unch farm of 490 acres has been recently sold to S. U. Garlock of Adair county, Iowa, for $12,250. The Ed. Charles farm of 185 acres to C. A. Applegate of Adair county, Iowa, for $4,200; the C. M. Cresap 88 acre farm to G. A. Pierson, Orient, Ia., for $968; the Sonner farm to Mr. West of Iowa for $3,050; the W. F. Lemmon farm of 125 acres to F. B. Croft; and the E. T. Steel farm of 120 acres to G. A. Pierson, Orient, Ia.

NEOSHO, MO.—The Neosho Ice company will increase their factory in capacity from 20 to 50 tons per day.

JOPLIN, MO.—Joplin has four steam railways and one electric road. One additional line to connect the various surrounding mining camps with the city will probably be built in the near future.

The Missouri and Kansas Zinc Miners' Association has closed a contract to supply 2,500 tons of zinc for foreign export. Nearly all of this ore will go to Antwerp in Belgium.

Among the new banking establishments of Joplin is the State Trust Company, just organized.

Contracts for the erection of the Joplin Brewery have been closed. The establishment will cover 150x200 feet exclusive of the ice plant and bottling department, and will cost $200,000. The plant will be in operation by April 1, 1902. The daily capacity will be 200 barrels of beer, fifty tons of ice and from 6,000 to 10,000 bottles of ginger ale, soda pop, etc. The capital invested is $300,000. Forty men will be employed all year 'round and the annual pay roll will be about $40,000.

The fund necessary to secure a lot for a library building has been raised and the construction of the building is expected to be begun within a reasonable time.

The establishment of the Zinc Oxide plant has created the necessity of using from fifty to 100 barrels per day for packing the product. A cooperage plant with a capacity of 200 barrels per day is to be erected within a short time.

The contract for the foundation work on the new hospital of "Our Lady of Mount Carmel" has been let to a Joplin firm of contractors. The hospital will be the finest in the state, and a lasting credit to the Catholic church. The building will be heated by steam throughout at a cost of $3,000.

The Greenwood Mining Company has filed its articles of incorporation; capital $40,000; for the purpose of mining, buying, selling, smelting and otherwise treating lead and zinc ores.

The Southwest Missouri Electric Light Co. has contracted for the erection of an ice plant and will hereafter turn out 300 tons of ice per day. The cost of the new plant will be about $100,000.

Last year Missouri produced more manufactured tobacco than any other state in the Union, and over 78,000,000 pounds were prepared for the market.

PITTSBURG, KANSAS.—Mr. J. E. Shott, of Nevada, Mo., has arranged to move his cornice works to Pittsburg on account of its better location and shipping facilities. The installation of this new factory will add several families to our population.

The demand for new buildings is so great that the contractors and material men find it difficult to keep up with their orders.

W. R. Hines, of Frankfort, Ind., and F. M. Stilwell, of Swayzee, Ind., have spent several days here in looking for a location for a glass furnace. It is not yet known what they have decided to do.

Transactions in coal lands have been active. C. J. Devlin paid $100 per acre for 10 acres three miles north of Pittsburg. Geo. S. Davison has sold his 80 acres one mile south of Anna to the Western Coal and Mining Co. for $4,000. J. E. Raymond sold 240 acres of land near Girard to C. J. Devlin for $15,000.

IOLA, KAS.—It is estimated that about 2,100 cars of manufactured zinc are turned out here annually, and 700 cars at La Harpe making 2,800 cars from this field annually.

SALLISAW, I. T.—This flourishing and growing town has suddenly realized that it needs waterworks, and a plan for their construction is now un-

der consideration. The Sallisaw Cotton Gin Co. has installed a new sixty-horse power boiler and engine in its plant and has doubled its capacity.

WESTVILLE, I. T.—The new elevator is rapidly nearing completion. The building and equipments are modern throughout and will greatly facilitate the handling of grain at this point.

STILWELL, I. T.—The local cotton gin has been doing a rushing business and the last of the crop will soon be ready for the market.

GRAVETTE, ARK.—Mr. John Bryan, of Bentonville, Ark., has paid out over $20,000 for poultry at this point during the past season.

BENTONVILLE, ARK.—The big cold storage and ice plant under construction at this point has been about completed. It is a handsome brick structure and will cost entire about $30,000.

GENTRY, ARK.—H. C. Severance, Ira Bond, Chas. Hutchins, W. M. Burdick and Edwin Burdick and their families, numbering thirty persons in all have brought their household goods and settled near this place. H. L. Clark, of Milton, Wis., and Mr, Eaglesfield, of Berlin, Wis., came with the party to look over the country. These people are Seventh Day Baptists and a very desirable addition to our population.

The Gentry Fruit-growers Association held their annual meeting and selected a new board and new officers. Mr. A. J. Maxson is president,, F. M. Longley, vice-president, and O. W. Patterson, secretary.

FORT SMITH, ARK.—The U. S. Census Bulletin gives a total of 828,820 bales of cotton for the crop of 1900 in Arkansas. The greater part of this crop is grown in the eastern and southern part of the state. The cotton product in the counties on the line of the Kansas City, Southern Railway was as follows: Crawford county, 16,484 bales; Howard county, 10,346 bales; Little River county, 14,997 bales; Miller county, 11,178 bales; Polk county, 1,670 bales; Scott county, 5,935 bales; Sebastian county, 9,329 bales, and Sevier county, 8,094 bales.

The demand for ice in refrigerator cars used for shipping berries and other products of this region has been so great that it could not be supplied. Both ice companies are enlarging their plants and are installing new machinery.

The manufacture of clothing in Fort Smith is growing into an extensive business. The Fort Smith Pants Factory has increased the capital by $25,000 and has moved into a larger building. At the present time seventy machines are in operation.

The two cotton oil companies have contracted to fatten 5,000 head of cattle this winter. Mr. Joe Ward will also feed 800 head. The plant of the Fort Smith Oil Company has been enlarged twenty per cent since last spring.

The new telephone line between Fort Smith, Van Buren, Akin, Maple, Union Town and Saginaw, has been completed and is now in operation.

The new shoe factory is pegging along satisfactorily. The daily output is 600 pairs and the product is sold as rapidly as it can be turned out.

A new packing company has been organized and will begin building at once. It is capitalized at $150,000 and will employ sixty men. The daily capacity will be 250 to 300 hogs) The new company will introduce fine hogs for breeding purposes.

The Fowler & Son Packing Co., of Kansas City, have established a branch house at this point.

Parties have recently visited Fort Smith with a view to establish a plant for building coal cars.

The articles of the American Smokeless Coal Co., capital $2,000,000, have been recently filed. This company has recently purchased 25,000 acres of coal land.

The Oklahoma Vinegar Co. are now organizing a colony of Hollanders to settle in this vicinity and raise cauliflower and pickles for their factory. The company have leased the necessary land and will install an irrigation plant to aid in truck-growing.

MENA, ARK.—Mr. Ed Little has now under construction a new sawmill, to be operated in connection with his cotton gin in South Mena. The new mill will cut 30,000 feet of lumber per day.

Up to the week ending October 15th, 619 bales of cotton have been marketed at this point. The prices paid varied from $7.20 to $7.85 per hundred pounds. Last year the cotton crop of Polk county amounted to 1,670 bales, (U. S. Census Report). It is thought that four times as much has been raised in the present year.

Mr. S. M. Redburn, who purchased the Hotel Mena property, has had the whole building renovated, painted and papered throughout and is now ready for business.

The question of erecting a large waterworks plant is still under discussion. An expert hydraulic engineer from St. Louis was in town recently and went over the proposition thor-

oughly. It is probable that water will be supplied from wells and forced through a stand pipe.

The tax valuation of Polk county, in personal property, amounts to $746,229, and consists of 3,291 horses, 1,541 mules, 11,902 head of cattle, 2,887 head of sheep, 25,569 hogs, 1,959 vehicles; goods and merchandise to the value of $122,440; manufactured goods to the value of $107,620 etc, etc. etc.

GILLHAM, ARK.—The 100 ton plant of the Southern Zinc and Copper Mining Company, at Banoni, has been completed and is in active operation. The shipments of ore will begin in a very short time.

ASHDOWN, ARK. The improvements made here during the dull summer months, consist of a brick bank building, a new steam gin; a two-story lodge hall; a large tank for the Waters, Pierce Oil Co.; a brick kiln with 200,000 capacity. Five new business firms have located here and others would have done so had they been able to rent suitable buildings.

DE QUEEN, ARK —The De Queen Fruit & Vegetable Growers' Association held their monthly meeting recently. Mr. A. S. Hooker, who made a study of the Kansas City and other markets, particularly as to cantaloups, reported that the only fault found with this product was that the supply was insufficient.

This little city was entirely destroyed by fire two years ago. It has been rebuilt and doubled in population. Among the numerous new buildings are eighteen brick and five stone structures.

The influx of home hunters still continues and every day new people are seen on our streets who have come here to look for locations in the vicinity. The real estate transfers during the last three months have been more numerous than in any preceding year.

The railroad business during the month of August shows an increase over any previous month of $5,541.55. The total business amounting to $13,490.28.

COVE, POLK COUNTY, ARK.—This point furnishes nearly all the crushed rock used on the Kansas City Southern Railway, and some thirty men are employed at this work all the year round. Lumber has been, and is yet the principal shipping commodity, but fine fruits and commercial truck have been shipped in considerable quantity during the last three or four years. Several car loads of apples and sweet potatoes have been shipped from here during November.

Arkansas Manufactures.

The following data are compiled from a preliminary report issued by the U. S. Census office. There are in Arkansas 4,794 manufacturing establishments, requiring an investment of $35,960,640. The value of the product is $44,883,738. The number of establishments is 131 per cent more in 1900 than in 1899; the volume of capital employed has increased 140 per cent and the value of the products 98 per cent. The number of persons employed is 26,501, the total amount of wages paid $8,686,291, and the miscellaneous expense, $1,482,779.

SHREVEPORT, LA.—The Shreveport Ice Company has recently let contracts for the enlargement and improvement of the plant at a cost of $100,000.

LAKE CHARLES, LA.—The city has secured a Carnegie donation of $10,000 for a public library. A fund of $1,000 per annum is now being raised for its maintenance.

Hon. Jno. H. Poe is now erecting a new shingle mill with a daily capacity of 25,000 shingles.

Mr. Jno. Dalton, of Morgan City, will remove his canning factory to this place and has contracted with the farmers in this vicinity for his year's supply of tomatoes.

The eight rice mills of this city are now in full operation. The Lake Charles rice mill will turn out for market 3,000 barrels of commercial rice daily.

The building of an electric street car line is one of the probabilities of the near future.

The Union Sulphur Company have temporarily shut down their largest well, which they have been pumping since September. The workmen at the plant were unable to construct vats fast enough to take care of the output, or break up and cart away the mineral as it hardened. The crude sulphur lies in a solid mass four feet high about the well. Fifteen new boilers will be installed shortly, thereby doubling the capacity of the plant.

The charter of the Higgins Standard Oil Co., Ltd., capital stock $10,000,000, general offices at Lake Charles, La., has been filed. The objects of the company comprise the buying, selling and leasing of lands, boring and digging of wells, the building of refineries and the transportation of products by rail or steamer.

BEAUMONT, TEX.—The Jefferson County tax rolls for 1901 show an aggregate valuation of $10,240,041 as against $6,500,000 in 1900. There are rendered in the county 54,028 head of

cattle; 4,750 horses and mules. 410 head of sheep and 87 goats. In round numbers there are 119 miles of railroad and 136 miles of telegraph and telephone wires in the county.

It is stated that more contracts are now being made for oil borings on Spindle Top, than at any time since the rush last April. More than twenty-four new derricks were counted on the Keith-Ward tract during the first week in December. An unusual number of well boring contracts have been let during the last few weeks.

PORT ARTHUR, TEXAS.—The Port Arthur Rice Milling Company has been in operation for over a month now, and has all it can do. The mill is run by 125 horse power engines and can easily handle one thousand barrels of rice per day. The new ware house is now completed and will hold 60,000 sacks of rice.

The large refinery of the Guffey, Petroleum Company is now completed and in operation. The Shell Transportation Company of London has by contracts acquired the entire export trade of this company. The Guffey Oil Company now owns the steel steamer M. S. Dollar, capacity 30,000 barrels of oil; one oil barge with 5,000 barrels capacity, and also the steam tug Ernest.

About four steamers touch at this port per week. The Atlas, the Matanzas, and a Standard Oil barge load here with crude oil. The Robt. Adamson and several other ships call here for lumber, wheat and cotton. Part of the Adamson's last cargo consisted of 85,000 bushels of wheat and 40,000 bales of cotton. Under a contract with G. T. Soley & Co., of Liverpool, two steamers stop at Port Arthur per month. One of them cleared from this port with 60,000 barrels of oil about the last week in November. It is understood here that the capacity of the docks is to be largely increased. The third oil pipe line into Port Arthur has been completed.

The Central Asphalt and Refining Co. have established their general offices here and are at work on their new oil refinery. The company has a capital of $2,000,000, and will engage in the manufacture of asphalt, paints and other oil products. It will employ 200 men and consume about 700 barrels of crude oil per day.

The demand for cottages to rent is urgent. There is not an empty room in town.

A RICE FIELD UNDER IRRIGATION.

RICE—ITS HISTORY AND CULTIVATION.

The record of most of our staple grain crops is lost in the gray mists of antiquity. Where or when wheat was first grown is unknown, though it apparently was a staple crop with the Egyptians and Babylonians 7,000 or 8,000 years ago. Its cultivation goes as far into the past as does the history of the human race. The cultivation of rice seems to run parallel with that of wheat, and the Chinese claim that it was introduced in their country in the year B. C. 2822, several centuries before the deluge. How long the Winnebago and other Indians have harvested the wild rice of the Northern Lakes is an unsolved mystery.

In appearance cultivated rice has much in common with wheat in its early growth. The arrangement of the seeds in the head is somewhat similar to that of oats, but the kernel looks more like barley. With both barley and oats, the hull is folded over the seed, but with rice the seed or kernel is entirely closed like the kernel of a nut, and the hull must be removed by friction severe enough to crack the hull. Rice stools very thickly, producing from thirty to one hundred straws to each seed and from 100 to 400 seeds to each head. It is claimed that rice is the only small grain that yields the one hundred fold of scripture, but this is not absolutely true, for both wheat and oats, under irrigation and other favorable conditions are known to yield from seventy to one hundred and twenty bushels to the acre. There is room for suspicion that originally wheat oats and barley were water plants, but were converted into upland varieties as the result of the migrations of human kind.

Rice is today the staple food for one half the population of the earth, more particularly so of the dense populations of China, Japan, the East Indies, and the numerous large islands of the Indian Ocean. Though not the exclusive food except in periods of famine, it is the most generally used of all cereals. The estimated populations of the oriental countries are, the Chinese Empire, 402,000,000; the British possessions in Asia, 291,000,000; Japan, 43,000,000; and other rice-consuming countries, 90,000,000. Ordinarily one-half the food consumed by these peoples consists of rice, the other foods being mainly beans and fish. The quantity of rice grown annually is estimated at 12,500,000 tons or 250,000,000,000 pounds, nearly all of which is consumed in the countries where it is grown. The exports to Europe are large, but do not reach one per cent of the total production.

Food Values and Uses of Rice.

Among the food values rice takes the first rank, being easily digestible and highly nutritious. It is equal in nutrition to choice meats, poultry, fish, Indian corn products, Irish potatoes, oatmeal or malted milk. It is claimed that boiled rice is digestible in one hour and where it is the principal food indigestion and stomach troubles are of rare occurence. It is the ideal crop for a densely settled country for the reason that the irrigation water used in its production, to very large extent,replenishes the fertilizers extracted from the soil by the crop. Very few people have any conception of the quantity of natural fertilizers carried by even a clear stream. It has been calculated to equal five to ten tons per acre in the course of a year and to be equal to the best compost. Compared with all other cereals rice has the better keeping qualities, particularly so in the tropics, where it can be stored for a long period of time with reasonable safety. Its preparation for the table is simple; it can be cooked with the crudest utensils and under all conditions it is always a healthful food.

Compared with the staple foods in common use, the nutritive properties of rice are claimed to be in excess of any of them, weight for weight, and at the present market price rice is claimed to be 33 1-3 per cent cheaper than any other food.

Rice and its by-products are utilized in various ways. Preparations of it are in common use in the treatment of various ailments of the digestive organs. It is used in the manufacture of jewelry, toys, cements and paper, and likewise is used in the manufacture of beer, sake and arrack rum. The inferior grades of rice, and part of the bran and rice polish, can be converted into merchantable starch and the latter are turned also to practical account in feeding live stock, though the polish and rice flour are fit for human consumption. They are in great demand in Europe and are exported from New Oreans in great quantity. The straw is a fairly good fodder and is much liked by cattle, being equal in nutritive value to southern prairie hay. The hulls make a fairly good fertilizer.

Rice Culture in the Orient.

The methods of cultivation are the most primitive in the countries in which the culture has continued the longest time and where the greatest number of people depend upon the crop for subsistence. It was anticipated some years ago that the American rice grower would be unable to produce home grown rice cheap enough to compete with the imports from Asia on account of the extremely low value set on human labor in the Orient. This fear was altogether unfounded as the crop is now produced so cheaply by the use of improved machinery that competition between the two rice producing regions, the Occident and the Orient, is entirely out of the question. A comparison of the modes of cultivation explained below, will show the reasons why there can be no Oriental competition to the detriment of the American rice grower.

Throughout the entire Orient, rice culture is carried on without the use of modern labor-saving machinery and in most localities the prevailing conditions are such that it could not be used to advantage. There are but minor differences in the methods employed. Rice has been under cultivation for so great a period of time that many distinct varieties of the grain have been developed. Some varieties thrive in the salt or brackish marshes along the coast, while others reach maturity on the mountain slopes of India, 7,000 to 10,000 feet above sea level. Some grow only in deep water, while others are grown where water for irrigation is not obtainable. There is also considerable variation in the quantity, quality and value of the crop.

The lands devoted to rice are divided by levees or ridges into small fields, seldom containing more than half an acre of ground. These fields are well drained and thoroughly worked by hand. Oxen are sometimes used for plowing, but most of the soil is turned with the spade or mattock. Prior to planting the fields have been prepared and flooded to a depth of 1½ to 4 inches. The plants, grown separately in a seed bed, are set in rows about one foot apart and at a distance of ten to twelve inches in the row. They are imbedded in the mud so that the soil covers the roots. The fields are fertilized from time to time, thoroughly weeded, hoed and irrigated.

The seed, which has been previously selected for its size and quality, is soaked in pure water until well sprouted and is then sown broad cast on the seed bed, which has been previously worked into a bed of mud covered with water to a depth of two and one-half inches. In five or six days the rice is well started. It is irrigated and drained daily. Early in June, when the plants are from eight to ten inches high, they are pulled up, tied in bundles of six to ten plants and transplanted into the fields.

In harvesting the grain is cut close to the earth with a small sickle and tied in bundles from three to four inches thick. After drying during the day, they are hung on bamboo poles. When dry, the grain is removed by pulling the grain through hetchels and is then spread on mats in the sun to remove all moisture. The hulls are removed by passing the grain through a pair of burs. It is then winnowed by dropping it through the air or running it through a fanning mill. Sacks of rice straw are used for packing the grain for market.

In the Philippines, the direct rainfall, which amounts to 47.56 inches, converts the fields into shallow ponds lasting long enough to mature the crop. Sowing the seed in beds is the common rule, though there is also considerable broadcast sowing. Labor is abundant and very cheap, but the quantity produced per individual is so small that it cannot possibly come in competition with American labor saving machinery. Much rice is grown, but not nearly enough to supply the population. The average annual import from 1886 to 1890 was 157,332,654 pounds.

In the Hawaiian Islands 4,700 acres are devoted to rice, producing 5,500,000 pounds. The lands used are low lying tracts that could not be turned to any other account and are cultivated exclusively by Chinamen. The crop takes the second place in the value of product, there being on the Islands also 125,000 acres in sugar and 6,915 acres in coffee.

In Japan 43,000,000 people are supplied with rice food from 7,000,000 acres. In India there are under cultivation in rice 60,000,000 acres, supplying the principal food for 287,000,000 people. China has more land devoted to this purpose than any other country. From the China Sea to the Yellow River and far inland, the whole country is a vast network of canals and rice fields and the many millions of natives depend almost exclusively upon this crop for their subsistence. In Siam, Anam, Cochin, China and Tonquin rice is also grown in enormous quantities and largely exported.

ARTESIAN WELLS AT LAKE CHARLES, LA.

Rice Culture in the United States.

In 1694 a vessel on its way from Madagascar to Liverpool, put into port at Charleston, South Carolina. From the captain of this ship, the then governor of the colony obtained some rough rice with the suggestion that it might possibly grow, if it were planted. The experiment was successfully made and yielded the famous Carolina rice. Fifty years later, the culture extended to both Carolinas and Georgia. Eastern Louisiana and Florida engaged in rice culture later. Within the last ten years Texas and Western Louisiana have increased the rice growing area to such extent as to furnish three-fourths of all the rice produced in the United States.

The total consumption of rice in the United States in 1897 was, domestic, 113,400,000 pounds; imported, 225,000,000 pounds. The product of Texas and Louisiana in 1899 was 100,326,000 pounds; of South Carolina, 27,000,000 pounds, and of Georgia, 13,000,,000 pounds. The average annual production for the ten years ending 1896 was about 145,120,000 pounds of cleaned rice. The import in 1899 amounted to 153,837,026 pounds. No estimates relating to the actual acreage under cultivation in rice have come to the knowledge of the writer, but figuring on an average crop of 1,620 pounds or ten sacks to the acre, about 145,000 acres must have been devoted to this crop during the ten years preceding the year 1896. In Bulletin No. 22, U. S. Agricultural Dept., entitled "Rice Culture in the United States," it is estimated that about 3,000,000 acres of land, situated in the five states bordering on the Gulf of Mexico, could be successfully irrigated and used for rice culture. Allowing for a rotation of crops one-half of this land could be in rice cultivation each year. About 2,500,000,000 pounds of rice could be annually produced, which would be nearly six times more than our present consumption.

The rice lands yielding the best results are the medium loams containing about fifty per cent of clay and underlaid with an impervious subsoil

that will retain the water while under irrigation and readily part with it when drainage is necessary. Without proper drainage the use of improved machinery is impracticable. Gravelly or sandy soils without a clay subsoil are undesirable because the water cannot to advantage be retained. The rich drift soils of the Texas and Louisiana coast have shown themselves to be admirably adapted. As irrigation for this crop is absolutely necessary it is obvious that the land must be located where there is a permanent and abundant supply of fresh water. A moist or humid climate is essential as it has much to do with the magnitude of the yield per acre. The most perfect grain and the largest yield per acre are obtained where there is the most moisture in the air.

Comparative Crop Values.

Ten barrels or 1,620 pounds of rough rice to the acre are considered a good average yield. This rough rice will generally bring about $3.00 per barrel or $30.00 per acre. This crop will cost $10.00 to grow, leaving a margin of profit of $20.00 per acre. Compared with wheat the rice crop makes a remarkable showing at the average yields and values.

Wheat, 100 acres, land owned by the farmer:

Cost of seed, one bushel to the acre at 65 cents per bushel	$ 65 00
Plowing, sowing, and harrowing, $2 per acre	200 00
Harvesting and threshing at $4 per acre	400 00
Cost of production	$ 665 00
Avg. yield, 15½ bus. pr acre, 1,550 bus. at 65c.	$1,007 50
Cost of production	665 00
Net profit on wheat	$ 342 50

Rice, 100 acres, land owned by the farmer:

Cost of seed, 80 lbs. pr acre, 49 bbls. at $3 pr bbl	$ 147 00
Plowing, sowing and harrowing at $2 per acre	200 00
Harvesting and threshing at $4 per acre	400 00
Water rent, 200 bbls. of rice at $3 pr bbl	600 00
Cost of production	$1,347 00
Avg. yield, 10 bbls. per acre, 1000 bbls. at $3 per bbl	$3,000 00
Cost of production	1,347 00
Net profit on rice	$1,653 00
Rice farmers' net profit from 100 acres	$1,653 00
Wheat farmers' net profit from 100 acres	342 50
Difference in favor of the rice farmer	$1,310 50

An acre of corn will cost $11 to grow and will be worth, at fifty cents, $15.00. Oats will bring less money than corn, and hay less than oats. To get the equivalent value of one acre of rice, it would require three and one-third acres of wheat yielding fifteen bushels per acre and grown at a cost of $23.33; two acres of corn, yielding thirty bushels per acre and raised at a cost of $22; or two and one-half acres of oats, yielding forty bushels per acre grown at a cost of $17.50. With all these crops there is an element of uncertainty of yield which is eliminated in the cultivation of rice.

American Methods of Rice Cultivation.

In South Carolina and Georgia the rice plantations are usually located along some river far enough from the sea to be free from incursions of salt water. The land is so situated that it can be flooded from the river at high tide and drained at low tide. The whole plantation is enclosed by a canal, the dirt from which forms an embankment to protect it from freshets. The tract is cut up by smaller canals into tracts of ten or twelve acres, and again subdivided into strips twenty to thirty feet in width. From sixty-five to eighty miles of canals, ditches and levees are usually found on a tract of five hundred acres.

Early in winter the fields are plowed or hoed and then covered with water which is later drained off. The frosts of winter then thoroughly pulverize the lumps of soil that result from plowing. In March the land is dried and thoroughly harrowed. Seeding lasts from April to the middle of May. The seed, 114 to 135 pounds to the acre, is dropped in trenches 2 to 3 inches deep and twelve inches apart, and is then flooded. In four to six days the seed has sprouted and the water is withdrawn. As soon as the

blades are up a few inches the rice is flooded for a few days. When the rice has two leaves it is again irrigated and the water is held on the field for thirty days. The field is then drained and when dry is carefully hoed and weeded. When the rice begins to joint it is again flooded and water is kept on until within eight days of the harvest. During the irrigation it is changed once a week to avoid its becoming stagnant and harboring water insects.

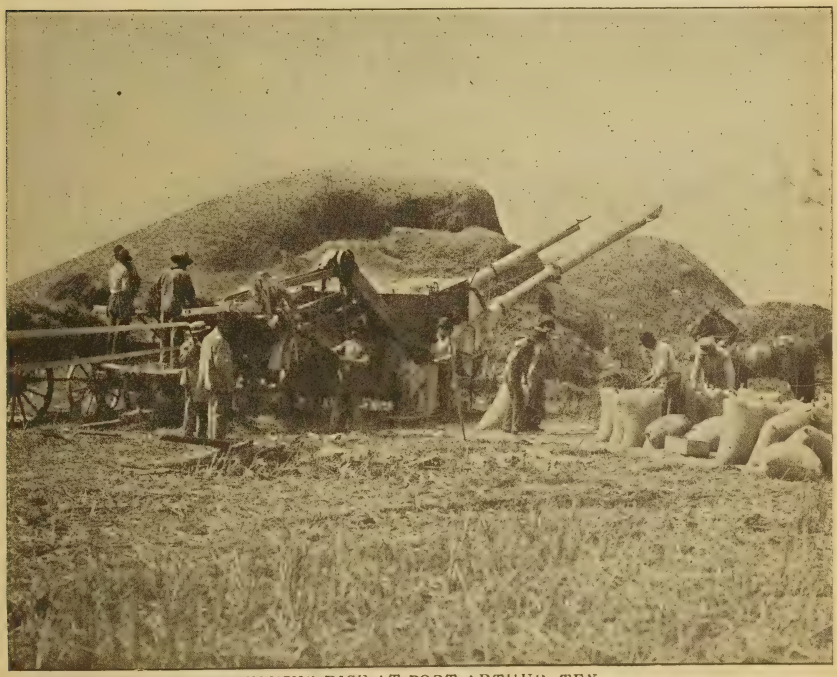
The yield on the best lands is estimated to reach thirty to forty-five bushels to the acre, the standard weight of rough rice being forty-five pounds to the bushel. The annual cost of cultivation varies from $24 to $35 per acre. The rough rice is estimated to cost from $1.66 to $2.69 per sack of 162 pounds. In North Carolina, Florida and Mississippi essentially the same methods of cutivation are pursued.

In Eastern Louisiana two methods of cultivation are in common use. In the "wet culture" the fields are flooded before any work is done. They are plowed in the water and the rice is then sown and harrowed. The field is then drained and the seed germinates at once. Planting begins late in April or May. In the "dry culture" the land is plowed in winter and prepared as for oats. The seed is then sown broadcast or drilled in. When it comes up, the land is moistened with water, the same being kept below the top of the plants and being followed up as the plant grows. In both methods the water is kept on continuously from the time the rice appears above ground until the water is drained off for harvesting. The crop is generally harvested in August and put in shocks of twenty bundles, being allowed to dry about a week. After that the crop is thrashed as early as possible. The average yield is about eight barrels per acre, though thirty barrels have been obtained from extra good lands with exceptionally good cultivation.

The Texas and Louisiana Rice Fields.

The rice growing region extends from the Sabine River east and west about one hundred miles and extends inland from the Gulf coast about fifty miles. The lay of the land is unusually favorable for this branch of

blades are up a few inches the rice is flooded for a few days. When the



THRESHING RICE AT PORT ARTHUR, TEX.

agriculture, in that very large areas are very smooth and level, naturally very fertile and convenient to permanent streams from which they can be flooded. In some places the land is so level that tracts of forty and eighty acres can be flooded without division into smaller fields.

Rice cultivation was introduced in Eastern Louisiana during the Spanish regime—when several hundred Philippinos were brought to Louisiana for the purpose of cultivating rice. Their descendents still live in south-eastern Louisiana.

Up to 1885 the antiquated methods, almost Oriental in their crudeness, were in common use, making possible a production just sufficient for immediate home consumption. Commercially the rice crop of Southeast Texas and Southwest Louisiana cut no figure in the market whatever. It was "Providence rice" and five acres were enough for anybody. It was the "infant industry," a few scattered isolated fields on low ground, watered when it rained and harvested with the sickle. In 1886 the production amounted to 250 car loads. Six years later, in 1892, it had reached 7,000 car loads.

In 1884 a few farmers from Iowa drifted into Louisiana and settled at Jenning's Station near Lake Charles. Finding that rice could be produced, even though in the crudest of ways, and that the country was adapted to its cultivation, the more venturesome spirits among them experimented in the use of modern machinery and soon adapted the wheat cultivating implements of the northwestern prairies to this purpose. The practical adaptation of machinery was a tremendous leap forward and rice culture in Texas and Louisiana was put on a footing against which old time methods could not compete. The broadcast seeder and then the drill superseded the man with the pail full of rice sown by hand. The sulky and gang plow soon took the place of the little bull tongue cotton plow, and the spring tooth, cutaway and disc harrows replaced the old-fashioned three-cornered drag. The mowing machine and twine binder drawn by four mules left the forty men with sickles far in the rear, and the steam thrashing machine relegated the man with the flail to the shades of the past. Providence rice is hardly grown nowadays, and there is no transplanting, no sickling, no flailing, and no plowing, sowing, weeding or harvesting in the water. In fact, there are no difficult or complex problems to worry the man who grows rice. Any farmer who has grown wheat can grow rice. The only difference is in the flooding of the land and the irrigation companies do that for him. In 1899 there were in the rice fields over 5,000 harvesters, each doing the work of forty men with sickles.

There are now in operation over one hundred canals and pumping plants aggregating over 500 miles of main canal, each capable of flooding one thousand acres of rice or of irrigating 5,000 acres of other crops. The laterals or branch canals will aggregate 1,000 to 1,500 miles more. During the present year (1901) it is estimated that 300,000 acres can be flooded from these canals, which have called for an investment exceeding $5,000,000. About 200,000 acres are now cultivated in rice in Louisiana and 40,000 in Texas. This acreage will be increased fifty per cent in Texas and fifteen per cent in Louisiana within a year.

The large supply canals traverse the highest ridges of land and are built by throwing up two parallel levees from the outside, the space between them forming the canal. The water is thus kept above the level of the land to be irrigated. One end of each of these canals begins at the bank of some inexhaustible stream and immense pumping plants lift the water into the canal. In some canals it is lifted two or three times in order to reach certain elevations. The water is distributed through smaller canals, called laterals, through the prairie to the highest point on each man's farm. Some of the pumping plants are capable of lifting 90,000 gallons of water per minute, and they work day and night from the beginning of June to the end of August, in all between sixty and seventy days, during which irrigation is deemed necessary.

A perfect system of rice cultivation was not developed at once. In the earlier history of the industry the natural rainfall was depended upon to secure the crop and rice was only planted on the lowest lying lands, to which water could be drained from the higher lying lands, or which could be flooded direct from the streams. For a succession of years large profits were made, but it was found after a time, that successful rice culture

depends upon a constant supply of water. In drouthy years the rainfall could not be relied on and the streams would not rise to the level necessary for flooding the fields. This element of uncertainty was removed by the construction of the canals, which made available large bodies of land quite remote from the streams. There are now numerous canals in Acadia, Calcasieu, Cameron and Vermillion Parishes in Louisiana, and Jefferson, Orange and Harris Counties in Texas. The rice farmer rents the water from the canal companies, paying therefor 324 pounds of rough rice for every acre watered. It is estimated that half an acre inch, or 12,600 gallons of water are necessary every twenty-four hours to keep the land properly flooded and replenish what is lost by seepage and evaporation. Much of this loss is however replenished by the rains, the annual rainfall being from fifty-five to sixty inches. Three-fourths of all the land can be drained inexpensively and without the use of pumps.

Barely had the canal system been introduced when the discovery was made that there was available an unlimited supply of good soft water contained in a stratum of gravel some 125 to 200 feet below the surface. This bed of gravel has been found to have a thickness of 50 feet, and the water issuing from it rests under such pressure as to bring it nearly to the surface. Wells 200 feet deep have been bored in fourteen hours and none of them can be exhausted by pumping, no matter how close together they are bored. Water turned into them disappears as rapidly as if turned into a canal or river. A two inch well will flood ten acres of rice and a six inch well, from eighty to ninety acres. The total cost of an irrigating plant capable of flooding two hundred acres is estimated to cost from $1500 to $2500. Gang wells can be made, connected and worked by one engine and pump. Since the discovery of water, oil in limitless quantity has been discovered in the same vicinity. There are now in use (1901) five hundred wells, which, with pumps and machinery, were put in working order at an outlay of $750,000. The number of wells and the acreage irrigated will probably be doubled in 1902. The wells now in use irrigate 50,000 acres. One enthusiastic writer reports on both discoveries as follows:

"This solved the irrigation question for 7,000,000 acres of land and the result is that this section is being bored full of holes, with the assurance that either water or oil in paying quantities will be secured. If you bore to water and don't like the taste of it, go deeper and get gas; and if that doesn't suit you, go still deeper and get oil. You can bore your hole and take your choice."

Rice culture has brought about the most rapid development of the Gulf coast and has done more in this direction than any other agricultural specialty. In 1885 lands in Calcasieu Parish, La., and Jefferson county, Texas, were deemed practically worthless. To-day these lands are worth $10 to $40 per acre. In consequence of the development of rice culture, new towns have been created, old towns enlarged, new branch lines of railroad built and new manufacturing enterprises established.

THE PLANTING OF THE CROP

As Conducted in South-east Texas and South-west Louisiana.

There is considerable diversity of opinion as to whether deep or shallow plowing is best for rice, though both methods have their earnest advocates. Land should be broken for rice growing at any time during the fall and winter, the earlier the better. The heavy growth of grass on new land should be burned or otherwise removed, but if plowed under in the early fall will rot during the winter. In the spring, not later than the beginning of March, the sod should be well cut with disc harrows, rolled and harrowed. On old farms the plow should be followed in a very short time by the disc harrow and then by the smoothing harrow. The harrow should be followed by the roller, to crush all lumps, compact the soil, retain the moisture for the sprouting of the grain and to make a flooding for sprouting necessary. It is understood, of course, that the soil, while dry is sufficiently moist to admit of these operations. If not, a preliminary moistening may become necessary.

Seeding begins about March 10th, and is sometimes continued to June 10th. From about 55 to 80 pounds are usually used to the acre. It is indispensible that the seed rice be perfect in quality and free from red rice, imperfect rice and foreign seeds. It should be planted with a drill in order to secure a uniform depth of planting and a uniform ripening.

PUMPING PLANT OF PORT ARTHUR RICE COMPANY.

With broadcast sowing an irregular stand is likely to be secured, which is undesirable as all the grain should be ready for the machine at the same time.

Unless water is necessary for the germination of the seed, flooding should not be begun until the rice is from six to eight inches high, and if there is plenty of rain it is well to wait until the latter height is reached. Eight inches of water is deep enough to prevent the scalding of the plants. If the growing crop thoroughly shades the land, just enough water to keep the soil saturated will usually carry the crop through, though as a matter of safety, it is well that the water should stand from three to six inches deep all over the field, and be renewed by a continuous inflow and outflow. This prevents stagnation, the growth of injurious weeds and the harboring of water insects. A uniform depth of water all over the field will tend to a uniform maturing of the crop, if the drainage is good and each field has been plowed, harrowed, planted and rolled the same day, and the seed has been planted equally deep and been equally distributed.

As soon as the grain is in the dough, the water should be withdrawn. Sufficient moisture will remain to mature the crop. If cutting is delayed until the straw shows yellow to the top, the grain is reduced in quantity and quality and there is also some loss in shattering by the handling of the crop. The cutting should proceed rapidly and about two and one-half feet of straw should be cut with the grain to give it sufficient sustenance to mature. The bundles should be shocked on a dry place, and be left in the shock until the straw is cured and the kernel is hard. Stacking is not much resorted to as rice well cured in the shock and dried after threshing will generally keep from heating. If the rice is damp when it comes from the machine, it should be spread on the floor and be thoroughly dried before it is sacked.

The harvesting of rice does not differ from the harvesting of other small grain, and is done at the same expense and with the same machinery,

and the same applies to the threshing of rice. Ten barrels or sacks of rice, weighing 162 pounds each, are considered an average crop, though under favorable conditions, twelve to eighteen and more are frequently produced. The price fluctuates as with other grains, running from $2 per barrel to $4.50 and higher, with a good average of $3.00 per barrel.

Land upon which rice is planted very early, say in March, and where the crop matures early, can be utilized for growing a second crop of rice the same season which can be cut for hay, and will bring from $10 to $20 per acre. By cutting and removing the crop of rice as soon as it is matured, and then flooding the ground immediately, the sprouts will start from the rice roots at once, and will soon make a fine growth and mature grain. Some farmers have taken eight to ten barrels of rice per acre from these second crops.

The marketing of rice is easily accomplished and quickly done. Rice ware houses are found in all towns in the rice growing region. There are some thirty mills in operation which were erected at a cost of more than $1,750,000. Of these there are two large mills at Beaumont, one at Orange, and one at Port Arthur, in Texas; five at Crowley, La.; two at Lake Charles, and one each as Easterwood, Gueydans, Mermenteau Jennings, Welsh, Fenton, West Lake and Opelousas, in Louisiana. The rice acreage tributary to these mills is about 175,000 acres. The Louisiana mills have an aggregate daily capacity of 10,000 barrels and could use up a crop of two million barrels. The Texas mills will probably clean up 6,000 barrels per day. Formerly nearly all the rough rice was sent to New Orleans to be milled, but nearly all this work is now done where the rice is produced. The rice mills will either buy the rough rice, or mill the rice and sell it for the farmer, charging for this service forty cents a barrel, the mill retaining the bran and the polish.

The Modern Rice Mill.

Just as the mortar and pestle to pulverize wheat, and the metate and rubbing stone to grind corn have been fore-runners of the modern flour and grist mill, so the hollow stone or block of wood and pestle, used to crack the hulls of the rice, have been the fore-runners of the up-to-date rice mill. In the Orient the rice is still removed from the hull by dropping a heavy wooden pestle into a hollow log partly filled with rough rice. A man and woman engaged in this work can earn 60 cents (gold) per day, and clean about three barrels of rice. With the more wide awake Japanese a contrivance somewhat like a stamp mill is used and driven by water power. Such a mill with eight pestles, will hull a little over six barrels per day, at a cost of about two cents per barrel. Steam power is used in the cities, but the same method prevails.

A modern American mill will clean from 500 to 5,000 barrels of rice per day. The rough rice as delivered to the mill is carried on elevators to the top floor and is run into a machine, an agitator and fan, which removes the straws, sticks, dust and loose chaff, and then passes into a machine which removes the hull, leaving the brown grain, then through a machine which removes the bran, next to the brush room where it is polished by passing between great pieces of rubber and wooly sheep skin and closely woven wire screens removing the outside integument and emerges as a beautifully white, pearly, almost transparent grain. Then it passes through a series of screens which separate the whole grains from the broken ones, and the broken grains into uniform sizes. The polish, after being removed is reground and bolted until as fine as patent process flour. All these processes, including the weighing, are automatic, and the grain passes from the ground floor to the top floor seven times during the process of cleaning. The chaff is automatically carried to the furnaces and constitutes the fuel.

LIST OF CANALS.

CROWLEY, LA.	ACRES.	MERMENTEAU, LA.	ACRES.
Duson & Abbot canal	12,000		
J. R. Roller & Co. canal	8.000	Watertown Canal Co. canal	300
A. Kaplin		Hurd & Wright canal	500
Morris & Miller canal	8.000	S. L. Peck canal	300
Abbott Bros. canal	7.000	Cary & Gibbens canal	500
W. H. Duson canal	6.000	Maignaud canal	500

JENNINGS, LA.

M. Farland Irrig. Co. canal 6,000
A. D. McFarland canal 3,000
Wilkinson canal 3,000
Jennings Irrig. Co. canal..... ... 3,000
C. L. Shaw canal 500
Riverside Irrig. Co. canal 4,500
Gauthier & Sons canal..... 500
Lacasine Irrig. Co. canal 2,500
Lakeside Irrig. Co. canal 3,500
Williams & Cooper canal..... 1,500
P. J. Unkel canal 500
Northwood Irrig. Co. canal 500
Eckles canal 300
W. R. Conklin canal 500
A. A. Call canal 1,000
D. Derouen canal..... 250
Wm. Spurgin canal 1,600
G. B. Spencer canal 300
Maysville Canal Co. canal 4,000
Holton & Winn canal 5,000
J. H. Blose canal 200

LAKE CHARLES, LA.

Pomeroy & Sons canal 500
C. A. Lowry & Co canal 7,000
Stafford & Linkweiler Co. canal ... 3,000
J. N. Houk canal 400
D. Herbert canal 400
Farmers' Canal Co. canal 6,000
Paola canal 2,000
Houston River canal 8,000
H. C. Drew canal 6,000
Black Bayou canal 1,000
Bunker Hill canal 1,000
Bridgeford & Crow canal 400
Frazer & Nason canal 2,500
Lake Bros. canal 3,500
W. Allen canal 200
Felix Perkins canal 160
Lake Benton canal ....projected
Villere & Duhan canal 160

SHELL PARK, LA.

J. B. Foley canal 11,000
French & Ward canal 500
Laurents & Brousard canal 200

LAKESIDE, LA.

H. C. Clay canal 2,000
E. I. Hall canal 1,000

LACASINE, LA.

Ed Morris canal 1,000

MIDLAND, LA.

Midland Canal Co. canal... 5,000

KINDER, LA.

O. E. Moore canal 1,000
Kinder Canal Co. canal 6,000

RAYNE, LA.

Bradford Canal Co. canal .....projected

SULPHUR CITY, LA.

S. A. Robertson canal 2,000

WELSH, LA.

Robinson Canal Co. canal 1,000

ABBEVILLE, LA.

N. M. Stutts canal 5,000
Farmers' Canal & Irrig. Co. canal..20,000
Moss Canal & Irrig. Co. canal.. ... 2,500
Perkins Pumping Plant canal 800
Vermillion Development Co. canal..22,000
R. H. Mills canal 2,500

RAYWOOD, TEX.

Raywood Rice Canal Milling Co. ..
canal..... ....projected

TERRY, TEX.

Des Moines Rice Co. canal 1,200

TRINITY, TEX.

Trinity Canal & Irrig. Co. canal... 5,000

BEAUMONT, TEX.

Beaumont Irrig. Co canal 15,000
Jefferson County Rice Co. canal ... 5,000
Southern Rice & Trust Co. canal .. 1,500
Viterbo Bros.' Canal Co. canal.... 1,500
McClure Canal Co. canal..... 1,200
McFadden Canal Co. canal 5,000

ORANGE, TEX.

Cow Bayou Canal Co. canal 5,000
Orange County Canal Co. canal.... 2,700
Samuel Wilson Canal Co. canal ... 1,200

PORT ARTHUR, TEX.

Port Arthur Rice Co. canal 7,500

FACTS ABOUT RICE FARMING.

The immense growth of rice culture in the South within the past few years, together with the profits which the industry offers to energetic tillers of the soil, is attracting widespread attention. It is true there are many places in the world where rice is raised successfully, but there is one section which has been proven better than any other, and that is the Gulf Coast country of Louisiana and Texas. This statement is proven by the enormous crops produced there, the uniformly high price paid for the product, the superiority of the rice produced over that raised in other countries, and by the success of the farmers who are devoting their attention to it.

Among those who are unacquainted with the manner of cultivating rice a misapprehension is liable to exist. By many it is supposed that rice is raised in swamps or marshy land which is partially or totally unfit for any other purpose. Such is far from the facts in the case. In both Louisiana and Texas rice is raised on high land, land that is dry and level and is flooded by means of rice canals or irrigating ditches. These canals are supplied with water by immense centrifugal pumps which throw water at the rate of from 10,000 to 50,000 gallons per minute to a height of 15 to 40 feet. By growing the rice on high ground and getting the water supply in the manner described a perfect drainage is secured, and this is essential to grow, ripen and harden the crop properly. In other ways the cultivation of rice is very

similar to that of wheat or oats in the northern states. The ground is plowed, disced, harrowed and the seed drilled in. The plowing can be done at any time from November to April—the earlier the better, as the early crops usually bring a higher market price.

The crop is flooded only while growing. Fresh water is continually pumped on the land at the rate of eight gallons per acre per minute. Therefore, it will readily be seen that stagnation cannot exist and cause sickness as is supposed by many.

The work required to produce a rice crop is practically the same as that required to produce an oat or wheat crop in the North. The expense is very little more and the rice farmer has the whole year in which to prepare his ground and make a crop, and can count on at least $20.00 per acre net for his efforts, after deducting all expenses; and it is not an unusual thing for a rice grower in the coast country of Louisiana and Texas to make from $30.00 to $50.00 per acre net. The elements of chance are very much less in growing rice than is the case with any other agricultural product of the country. The profits are greater, lands are cheaper, the climate is healthful and more pleasant.

Just at this time there is very great activity in the development of rice lands. The Hurd-Ford Investment Company of Beaumont, Texas, are opening some 30,000 acres of excellent land near Houston, Texas, by the construction of a large irrigation canal that will get its water from the Brazos river, which is the largest river in the state; and these same people are also opening something over 20,000 acres of first-class rice land in the vicinity of Vinton, Louisiana, by the construction of a large and complete canal system that will get its water from the Sabine river. This is a very large navigable stream and carries an inexhaustible supply of water, which is a most important point for the purchasers of land, or the rice farmer to consider. Those who are interested in rice culture, or who desire further information on the subject, will do well to address the firm mentioned in this article. They are in position to give reliable information and splendid advice upon the subject.

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There is no agricultural product which is so certain to produce a crop each year as

RICE

BECAUSE it is grown on land especially adapted to its culture.

BECAUSE it is not subject to weather conditions but is irrigated or flooded from rice canals.

BECAUSE being given the right amount of water at the right time, the crop is assured; and again,

BECAUSE of the limited area available for rice culture there is no danger of over production. RICE always brings a good price—from $3.00 to $5.00 per barrel of 162 lbs. RICE will yield 10 bbls. per acre. This is a very conservative estimate of the average yield. RICE is easily planted—is easily cared for—is easily harvested and yields large profits. RICE will net the farmer from $16.00 to $30.00 per acre clear profit.

RICE LANDS

A large irrigation canal is now in the course of construction near Vinton, La., taking water from the Sabine river, where there is an inexhaustible supply of fresh water. From this canal there can be watered from 30,000 to 40,000 acres of fine rice lands. About 35 miles west of Houston, a canal is in the course of construction taking water from the Brazos river, and from which 50,000 acres can be watered.

THE HURD-FORD INVESTMENT COMPANY, of Beaumont, Tex., and THE DES MOINES AND NORTHWESTERN LAND AND LOAN COMPANY, of Des Moines, Iowa,

are offering for sale excellent Rice lands in the vicinity of Vinton, La., Houston and Bay City, Texas, at prices which will enable purchasers to reap the benefits accruing from the development thereof and of the enhancement in the value of the lands, naturally following the development of the completion of the above mentioned irrigation canals now building, and from which the lands can be watered. They also have developed Rice lands at numerous places between Crowley, La., and Bay City, Tex., for sale or rent on reasonable terms. If interested, write for Rice literature and further information to

The Hurd-Ford Investment Company,
of BEAUMONT, TEXAS, or
The Des Moines and Northwestern Land and Loan Co.,
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